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DISPATCH OF THE "RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders No. 1190 *of* 1940, *and No.* 359 *of* 1941

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:—

Mondays to Fridays - 9.30 *a.m. till* 5.0 *p.m.*

The office is closed on Saturdays

Coal Output Anxieties

VERY shortly, it is clear the Government will have to take measures to allay the apprehension which is widely felt as to the possibility that the amount of coal readily available in the forthcoming winter may fall short of total requirements. Ever since March, when the Secretary for Mines announced his programme of large-scale stocking of coal during the summer and called for additional output of some 500,000 tons a week, endeavours have been made in various ways to reach the high level of output required. So far, despite the passage of time, there has been no indication that the objective set before the industry by the Secretary for Mines is within reasonable distance of achievement. The coal industry declares that to achieve the augmented output it must have at its disposal many of the miners who in recent months have gone from the pits into the armed Forces or into munitions factories or other similar work. The Government has set its face steadfastly against the release of miners in the Army, and its efforts to induce pit workers to leave better paid and more congenial occupations to return to the mines have so far met with but a small response. If this year the country has to face a fuel shortage it is at least clear that blame cannot be levelled at the railways, for Lord Leathers in an interview with the Editor of THE RAILWAY GAZETTE, published in our issue of July 4, stated that the railways could carry promptly every ton of coal raised during the next few months.

* * * *

Effective Publicity

Recent news from the United States tells of various original ways in which American railroad managements are seeking to interest the public in their doings. The Great Northern, for example, has issued its 52nd annual stockholders' report in the form of a first class periodical, illustrated by photographs, supplementing the complete and orthodox accounts by shorter and more readable statements, with diagrams and charts, concerning the operations and financial position of the company. The clarity and interest of this report, indeed, earned a special commendation from the *Wall Street Journal*, which should be a connoisseur in such matters. The Union Pacific inaugurated the illustrated report, in a less ambitious form, several years ago, and the Illinois Central, Santa Fe, New Haven, and other companies have used a similar method for keeping their employees well informed of their affairs. In its annual report to stockholders for 1940, the Western Maryland RR. included a four-page supplement in colour illustrating and describing its latest articulated express freight locomotives. The Illinois Central, at the request of a certain county superintendent of schools, prepared a booklet called "Trails to Rails—a Story of the Development of Transportation in Illinois," and after sending out a synopsis, received orders from 101 out of the 102 counties in Illinois on such a scale that it was necessary to print 175,000 copies. A sheet of pictures showing the evolution of an Illinois Central locomotive, expected to be the subject of a few hundred requests, actually circulated in thousands. The interest in railway affairs promoted by such propaganda may well lead to an increase in both railway travel and railway support.

* * * *

Not Making Up Lost Time

It is recorded in Colonel A. C. Trench's report into the circumstances of the fire which occurred on the 12.45 p.m. King's Cross-Newcastle express last April, that the driver, although his train was 15 minutes behind time, was running easily, at 55 m.p.h. The line at the point is suitable for high speed and is on gently falling gradients. The question, therefore, immediately arises as to why the driver should apparently have so flagrantly ignored the new instruction to take every opportunity possible to recover lost time in running. Perhaps it is not altogether fair to blame engine crews for forgetting the new instruction, because for so many years they have been allowed complete discretion as to whether or not they should make any attempt to recover lost time: and the novelty of the new system must, we

suppose, take some getting used to. Nevertheless, the serious effects of lateness in train working at the present time are patent to all travellers, and, having their repercussions far and wide, must adversely affect the country's war effort. In these circumstances it would appear to be more than justifiable to re-emphasise at every possible opportunity the importance of punctuality in railway working.

* * * *

Overseas Railway Traffics

In comparing the aggregate figures of Argentine railway traffics for the first few days of the new financial year with those for the nominal first two weeks of the previous year it must be borne in mind that the current figures for July 1 to 12 go against figures for July 1 to 13 in 1940. On this basis the Argentine North Eastern has an increase of only 100 pesos to date, whereas the Entre Rios records an advance of 29,800 pesos. Similarly, the Central Uruguay aggregate figures for July 1 to 12, 1941, show an increase of £9,217, or $70,321, over the aggregate July 1 to 13, 1940. Antofagasta traffics for the first 28 weeks of 1941 amount to £499,280, a net decline of £16,620, although in the last few weeks there has been some improvement.

	No. of Week	Weekly Traffics	Inc. or Decrease	Aggregate Traffic	Inc. or Decrease
Buenos Ayres & Pacific* ...	2nd	1,425	+ 347	2,667	+ 566
Buenos Ayres Great Southern*	2nd	1,865	+ 49	3,471	— 325
Buenos Ayres Western* ...	2nd	695	+ 51	1,350	+ 145
Central Argentine*	2nd	1,718	+ 286	3,011	+ 332
		£	£	£	£
Canadian Pacific	27th	807,000	+ 160,600	20,775,400	+ 5,052,000
Bombay, Baroda & Central India	14th	187,425	— 47,850	3,020,175	+ 98,550

* Traffic returns in thousands of pesos.

Leopoldina traffics for the first 28 weeks of 1941 show an advance of £64,831.

* * * *

The Jamaica Government Railway

Freight traffic on the Jamaica Government Railway, 210 miles of standard-gauge line, has decreased during the three past fiscal years ended March 31, while passenger traffic has been increasing, as follows :—

	1937-38	1938-39	1939-40
Freight traffic—long tons	370,258	336,256	298,000
Passenger traffic—number ...	405,035	420,084	421,767

While total revenue has decreased yearly, total expenses have been increasing, as indicated by the following table :—

	1937-38	1938-39	1939-40
	£	£	£
Operating revenue	329,011	266,939	237,894
Other revenue	9,488	34,325	899
Total revenue	338,499	301,264	238,793
Operating expenses...	271,073	285,023	309,814
Other expenses	4,346	2,705	—
Total expenses	275,419	287,728	309,814

The capital debt, which now stands at £3,953,636, is covered by the issue of Government debentures that are not subject to market fluctuation but are generally above par. The equipment of the railway includes 37 locomotives, 29 passenger carriages, 588 wagons, 25 railcars, 7 road lorries, and 6 railway cranes. Fuel consumed during 1939-40 averaged 33·6 engine-miles per ton of coal. During the year ended March 31, 1940, the railway had 1,924 employees, all British ; the total wages paid during the year amounted to £176,444. The Jamaica Government Railway does not operate regular road motor routes, but maintains a road collection and delivery service using 6 of its own lorries and 40 private vans in and around Kingston.

*

The Railway Position in Bolivia

Bolivia is one of the smaller South American countries with rail communication facilities that, for some years past, have been considered inadequate. The railways are few in number and are not connected to provide direct arteries of communication, although in the latter part of 1940 surveys were made with the object of improving the position, principally by the construction of a transcontinental line to Brazil (some details of which were given in our January 24 issue). Statistics recently compiled for the U.S.A. Department of Commerce indicate that the railways at present operating in Bolivia total 2,270 km. (1,410 miles), of which amount 810 km. (503 miles) are the property of the Bolivian State Railways. In addition there are 189 km. (118 miles) of line under construction, 1,461 km. (908 miles) of railway projects for which studies have been completed, 1,320 km. (820 miles) under study, and 860 km. (534 miles) being considered. Equipment owned by the Bolivian State Railways comprises 26 locomotives; 39 railcars; 31 passenger carriages; 7 luggage vans; 4 Pullman cars; 7 dining and special cars; and 344 goods wagons. Private railway equipment comprises 51 locomotives ; 8 electric cars and motors ; 3 rail cars; 66 passenger carriages; 11 luggage vans; 17 Pullman cars; 22 dining and special cars; and 604 goods wagons. Approximately 55 per cent. of the total mileage of the country is controlled by British interests, but during the three years 1937-1939 Germany ranked first among the countries supplying railway equipment to Bolivia, contributing 41 per cent. of the total; the U.S.A. came next with 18 per cent., and the United Kingdom contributed 13 per cent.

* * * *

Level Crossing Accidents in the U.S.A.

Approximately 35 per cent. of accidents at road and rail level crossings in the U.S.A. during 1940 resulted from operators of motor vehicles running into the sides of trains, according to a report issued by the Bureau of Statistics of the Interstate Commerce Commission. Of the 3,706 crossing accidents last year, 1,303 were caused by motor vehicles running into the sides of trains, resulting in 99 fatalities and 361 injuries by daylight and 184 deaths and 1,564 injuries at night. Saturday proved to be the day of greatest frequency for accidents of this type, with 60 taking place during the day and 178 at night. The largest number of casualties occurred between 1 and 2 a.m. during which hour 28 persons were killed and 214 injured. In 141 day and 433 night accidents the crossings were protected by lowered gates, watchmen, trainmen, or audible or visible warnings. Signals indicating the approach of trains were automatically or manually operated in 111 day and 335 night accidents. Motor vehicles struck the head end of the train in 251 daylight and 353 night accidents. Of the 996 night, 40 per cent. were reported as occurring at lighted crossings. In 9 day and 235 night accidents the train was standing still, while in 184 day and 648 night accidents the train was moving at less than 30 m.p.h. The weather was clear in 194 day and 591 night accidents. Motor vehicles were reported as running at more than 30 m.p.h. in 150 day and 495 night accidents. There were no unusual railway operations in connection with 304 day and 977 night accidents. The States with the greatest number of accidents caused by motor vehicles striking the sides of trains were: Illinois, 15 day and 105 night; Michigan, 28 day and 85 night; California, 16 day and 59 night; Indiana, 17 day and 57 night; and Iowa, 14 day and 35 night.

* * * *

The "Verein" in Wartime

The Central European Railway Association (Verein Mitteleuropäischer Eisenbahnverwaltungen), which is believed to be the oldest of its kind in existence, was founded in 1846, in order to promote the common interests, both economic and technical, of the various railway administrations. From 1847 till 1932 it was named the German Railway Association (Verein Deutscher Eisenbahnverwaltungen), but in 1932 the name was changed to the Central European Railway Association (Verein Mitteleuropäischer Eisenbahnverwaltungen). Shortly before the war there were 111 member administrations, State and other railways, with about 98,400 km. (say 61,000 miles) of railway. The member administrations were then situated in Germany, Hungary, Luxembourg, Netherlands, Denmark, Norway, Sweden, and Switzerland. The State railways of the four last-mentioned countries took up

membership at the beginning of 1929. Affiliated to the association are the Deutsche Lufthansa, the Mitropa, and the Central European Travel Office (MER). In peacetime the association issues two periodicals, namely the *Zeitung des Vereins Mitteleuropäischer Eisenbahnverwaltungen* (Journal of the Central European Railway Association) weekly, and the *Organ für die Fortschritte des Eisenbahnwesens* (Review for the Advancement of Railway Operation), fortnightly, but we have no precise information about the effect of the war on their frequency. As we briefly recorded at page 690 of our June 20 issue, the association membership had risen to 123 at the beginning of 1941, three more than at the beginning of 1940, and the mileage operated by the members increased by 8,000 km. during the year to 117,000 km. (72,700 miles). For the first time since the last war the figures are higher than those for 1914. Most of the increase during 1940 is accounted for by the 5,840 km. (3,650 miles) of railway in the Protectorate of Bohemia & Moravia; the remainder is made up of lines in territories annexed by Germany (in contrast to those regarded as "occupied"), and by some newly-built lines, mainly in Scandinavia.

* * * *

The 4-4-0 Locomotive in London

A notable reflection of the tendency to build for passenger and mixed traffic purposes only six-coupled locomotives may be observed in the comparative rarity of the 4-4-0 type at the London main-line termini. The only locomotives of this type to be seen regularly on the L.N.E.R. at Liverpool Street and King's Cross are the Holden "Claud Hamiltons," dating from about forty years ago. At Marylebone the sole representatives of the type are the Robinson "Directors." St. Pancras, though still frequented by the Compounds and Class "2P" 4-4-0s, sends most of its main-line trains away behind the ubiquitous Class "5" or the "5X" 4-6-0s, and it is only occasionally that the Compounds, Class "2" and "George V" 4-4-0s visit Euston. The appearance of a 4-4-0 locomotive at Paddington would almost create a sensation nowadays; but on the Southern Railway, where new steam locomotives have been few compared with new electric power units in the last fifteen years, the 4-4-0 is still a common sight. The "Schools" frequent Waterloo, Charing Cross, and Cannon Street, and the "L" and "L1" classes are principally to be seen at the latter two termini. Other 4-4-0s, notably those of Drummond, Billinton, Wainwright, and Maunsell designs, are to be seen at Victoria, Waterloo, and London Bridge; but even on the Southern the six-coupled engine now predominates.

* * * *

Danger Signals

In our report of Professor Hondelink's paper to the Permanent Way Institution on "Problems in Railway Construction in the Far East," we recorded the suspicion that sometimes exists between native engine drivers and signalmen who are of lower caste, as a result of which the warnings of signals may even be deliberately ignored. The author mentioned other instances, however, in which a very perfect understanding exists between footplate and signal box, so that occasionally the traveller on a Far Eastern railway may be perturbed to find his train pulling up in response to a signal arm that is being alternately raised and lowered to a certain definite tempo. This fourth aspect, as we suppose we must call it, informs the train crew that a chief officer is waiting at the next station, and it is therefore expedient to put away playing cards and disembark any friends who have been enjoying a free train ride. Thus does the unchanging East pervert the most treasured and admired of Western inventions to its own base uses. But in signalling systems there is at least an exchange of ideas between Orient and Occident. We have heard that in the days before any unexpected tocsin was at once construed as meaning "gas" or "invasion," those who wandered through our locomotive works would sometimes be greeted with the apparent clangour of a Chinese temple gong. Yet the sound was not what it seemed, but the hammer of an apprentice striking upon a piece of sounding steel to apprise his fellows that the footsteps of authority approached.

The Danish State Railways

THE favourable economic conditions prevailing in Denmark before the German invasion are reflected in the working and financial results of the Danish State Railways for the financial year ended March 31, 1940. The following figures, in millions of kroner, give an outline of the development as compared with that for the financial year 1938-39:—

	1938-39	1939-40
Operating receipts	126·1	139·5
Operating expenditure	130·6	135·5
Balance	− 4·4	+ 3·9
Depreciation	6·9	7·3
Interest service	14·2	14·9
State contribution toward working expenditure	25·6	18·3

It will be noted that the unfavourable working balance for the financial year 1938-39 was converted into a working surplus for 1939-40. The share of various categories of traffic in the upward trend of working receipts are specified in the following table:—

Receipts from	1938-39	1939-40	Percentage difference
Passenger	65·0	68·2	+ 4·9
Luggage	2·6	2·4	− 8·0
Goods and livestock	43·6	54·5	+24·9
Postal	7·9	7·4	− 6·3
Various receipts	7·0	7·0	

The increase in the goods receipts was due mainly to the augmented goods traffic in connection with the military and economic measures taken before and after the war broke out; the road traffic restrictions and the increased maritime trade before the invasion were also contributory factors. Full wagon loads increased proportionately to a greater extent than the parcels traffic, that is, by 29·6 per cent. (in weight), whilst the weight of the traffic in smaller consignments increased by 7·9 per cent. only. Notable is the increase in the livestock traffic, indicating increased activity. The average net receipt per ton carried was 8·91 ore (as against 8·46 a year previously) and 6·6 ore per *tonne*-km. (as against 6·8 for 1938-39). The following comparative table shows particulars (in *tonnes*) concerning the freight traffic:—

	1938-39	1939-40	Percentage difference
Wagon loads (exclusive of service freight)	3,475,690	4,506,054	+29·6
Small consignments	729,755	787,495	+ 7·9
Livestock	74,598	105,646	+41·6
	4,280,043	5,399,195	+26·1
Service freight	588,104	423,542	−28·0
	4,868,147	5,822,737	+19·6

The total of passengers conveyed amounted to 53,500,000 (1,679,000,000 passenger-km.), increases over 1938-39 of 2·9 per cent. and 8·6 per cent., respectively. The reduction in international passenger traffic, however, is indicated by the fact that the number of passengers who used the upholstered class increased by 0·4 per cent. only, whereas the increase for the common class was 2·9 per cent.; the figures in passenger-km. were 2·1 per cent. and 9 per cent., respectively. Of the aggregate trips, 98·8 per cent. were in the common class; it must be borne in mind, however, that many provincial trains have no first class compartments. There was a marked reduction in passenger train services beginning from the actual outbreak of the war (not the invasion of Denmark). At the end of the financial year 1939-40 the train-kilometres run had diminished by 2,900,000, or 9·6 per cent., as compared with 1938-39. Timetables were curtailed on September 29, 1939, and again on January 15, 1940. Trains totalled 27,200,000 train-kilometres (steam trains 16,900,000, or 62·2 per cent.; and high-speed railcars 1,500,000, or 5·4 per cent.; electric trains 1,900,000, or 7·1 per cent.; and other trains hauled by railcars 6,900,000, or 25·3 per cent.). Locomotive-kilometres totalled 41,400,000, against 44,400,000, a reduction of 7·5 per cent. Car-axle-kilometres increased from 656,900,000 to 665,300,000, or by 1·3 per cent. High-speed railcars earned particular favour with the travelling public, and the ratio of occupation of seats was 69 per cent. Some operating figures for the nine months from April 1, 1940, to the end of December last, were published at page 566 of our issue of May 23, 1941.

On March 31, 1940, the State Railways had 11,866 goods wagons (237 more than a year previously), of which 265 had been taken over from the private railways; 14 mail vans were converted into goods wagons, 42 goods wagons were condemned, 500 goods wagons had been lent to the German Reichsbahn for German coal destined for Denmark to be

conveyed between the mines and the ports of shipment. New acquisitions were :—Six diesel-electric railcars, 16 four-axle composite upholstered common class coaches, 3 four-axle common class coaches, 6 mail vans, 77 covered wagons (G-wagons), 188 open wagons (O-wagons), and 23 motor buses. In all, on March 31, 1940, the rolling stock consisted of: 560 steam locomotives ; 8 high-speed railcar trains ; 170 railcars, including 62 electric railcars ; 1,629 passenger coaches; 469 luggage vans ; 33 composite luggage and mail vans ; 123 mail vans ; 11,866 goods wagons, of which 6,457 were covered and 5,409 open ; 220 motorbuses ; 11 passenger trailers ; and 1 postal trailer. The fleet of the railways administration had increased by one three-track motor ferry. The personnel numbered 21,531 on March 31, 1940. At the end of the financial year, the length of the system was 2,391 km. (1,486 miles), no change having taken place since March, 1939. On May 9, 1939, the second track was opened between Aalborg and Limfjordsbroen, and on December 12, 1939, between Vejen and Brørup (Esbjerg-Lunderskov line). The length of route with double track increased from 577 km. (359 miles) to 587 km. (365 miles) ; thus only 24·6 per cent. of the whole system was double track. The length of the railway ferry routes totalled 161 km. (100 miles).

Some later financial information was contained in a nine-month statement (April-December), 1940, which we published at page 566 of our May 23 issue. Brief details of the financial results for the year to March 31, 1941, have now become available, and give receipts from passenger traffic as 75,800,000 kroner (an increase of 10·11 per cent., and from goods traffic of 96,900,000 (increase of 78 per cent.). Total receipts were 34·3 per cent. higher, or 187,100,000 kroner. Nearly 50 per cent. of the increase in receipts was absorbed by the sharply increased working expenditure which amounted to 159,000,000 kroner, an increase of 17·5 per cent. Apart from 7,700,000 kroner set aside for ordinary depreciation, no less than 29,000,000 kroner was allocated to extraordinary depreciation. The sharp increase in the goods traffic receipts is due mainly to the augmented traffic between Denmark and Germany for which sea routes are available only to a very limited extent because of Allied blockade measures.

* * * *

Antofagasta (Chili) and Bolivia Railway Co. Ltd.

THE owned and operated lines of this company, which has an administration at Antofagasta covering the lines in Chile, and one at La Paz dealing with the Bolivian lines, also provide connections with Argentina and Peru. The company's own lines are metre gauge. A system of waterworks is also part of the company's undertaking. Among the railways operated are the Aguas Blancas, the Chilian Northern Longitudinal, and the Bolivia, but the receipts and expenses of these lines are not shown in the company's revenue account. As shown by the report for the year 1940, gross receipts of the whole undertaking amounted to £871,704, an increase of £144,004 or 19·79 per cent. in comparison with 1939, and the working expenses of £751,021 showed an increase of £155,137 or 26·03 per cent., so that the net receipts of £120,683 were £11,133 lower. The item of £264,000 " shareholdings in subsidiary companies," on the credit side of the balance sheet represents the company's holdings in the Andes Trust Limited, the Chilian Northern Railway Co. Ltd., and the Aguas Blancas Railway Company. From the Andes Trust the company received £100,000 by way of dividend, and £30,941 net income from bonds of the Bolivia Railway Company. After allowing for the rental of 40 per cent. of the gross receipts, the operation of the Bolivia company's lines resulted in a loss of £37,216, and a sum of £17,761 has been charged in respect of the company's obligations under the lease of the Aguas Blancas Railway. The accompanying table compares the financial position of the past two years :—

	1939	1940
	£	£
Railway gross receipts	687,469	823,071
Railway working expenses	561,776	705,594
Railway net receipts	125,693	117,477
Total income	463,530	440,925
Debenture interest, rentals, etc. ...	280,022	208,277
Exchange differences	7,010	20,000
Carried forward	176,498	212,648

Passengers numbered 432,898, an increase of 45,280, producing receipts of £50,057, which were £8,341 higher than in 1939. Public goods traffic totalled 1,023,060 tons, a decrease of 1,208 tons, but the receipts therefrom were £121,079 greater, at £703,786, mainly through an improvement in the long haul traffic, particularly in minerals from Bolivia, and partly because of an increase in the higher-rated up traffic. Higher prices for fuel and materials, increases in currency salaries and wages, in local taxation, and in payments under the labour laws, and the improvement in the sterling value of the Chilean peso were the main factors in the increased expenditure. The operating ratio was 85·73 per cent., against 81·72 per cent. in 1939.

LETTERS TO THE EDITOR

(*The Editor is not responsible for the opinions of correspondents*)

"The Railway Gazette" and the Empire

" St. Erme," Ingram Road,
Wahroonga, Sydney,
New South Wales, Australia
March 15

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In the issue of THE RAILWAY GAZETTE of December 20 last, you were kind enough to publish a summary of my recent paper read before members of the Institution of Locomotive Engineers in Sydney, and also to comment favourably on the subject in the editorial columns of your journal. I would wish to thank you for your generous reference to my work, your appreciative remarks being much valued. Let me also say that, under the prevailing conditions, the fact that you peruse and comment on matter emanating from the Overseas Dominions is a tribute to the capacity of your magazine to retain its characteristic as the railway journal of the Empire, under circumstances which might reasonably be expected to obscure, for the time, your interest in the technical activities of locomotive engineers abroad.

I am, yours faithfully,

C. A. CARDEW

The Engineer as Administrator

Crawley, Sussex
July 15

SIR,—*A propos* your comment on the welcome appointment of Mr. R. M. J. Inglis to the post of Divisional General Manager, Scottish Area, L.N.E.R., it is true that in India (and possibly also in the Colonies) experience has generally shown civil engineer officers to make the most successful general managers or other chief railway executives. Their broad-minded mentality and training combine to equip them with that general ability and reasoned grasp, not only of civil and mechanical but also of transportation and commercial problems, essential in the general guidance of railway working. In India, for instance, five or six of the eight or nine leading railways have generally had engineer general managers, and the Chief Commissioner for Railways—the Chairman of the Railway Board—is almost always a civil engineer. This is no mere chance but the result of careful selection based on suitability from every point of view. In this country the percentage of engineer chief executive officers is usually lower, but before the war it was as high as 50 per cent., both the Great Western and Southern Railways having engineer chief executives. In Burma, if the latest agency telegrams are to be credited, there has just been an unusual reversion of procedure, Sir John Rowland, the retiring Chief Railway Commissioner, returning to what is a temporary chief engineer's job in charge of the Burma-China Railway construction.

Yours, etc.

F. S. BOND

THE SCRAP HEAP

"If you listen you may hear distant bugles sounding the V rhythm, or drums tapping. Perhaps you'll hear a train whistle sounded by one of your comrades."—*Colonel Britton in his B.B.C. broadcast at* 00·01 *on July* 20.

* * *

When a troop train passed through Stockport on Sunday continuous V's in morse were being sounded on the engine whistle. The engine was decorated with chalk V's, and the soldiers were leaning out of the windows giving the V sign.

* * *

Since his return to Abyssinia, the Emperor Haile Selassie has had new State drums manufactured which he himself designed. The skins were from local bullock and cow-hides and the domes were made by a railway coppersmith out of copper from old railway engines found by Mr. G. K. Wood of the Sudan Railways.

* * *

WILLIAM WHEELWRIGHT

A review of the volume, "Steam Conquers the Pacific" which appeared some months ago in the columns of our contemporary, *Engineering*, has produced an interesting letter from Mr. Arthur C. Wardle, the author of the volume, sending our contemporary photographs of an ancient medal. Mr. Wardle, in referring to William Wheelwright (1798–1873) who founded the Pacific Steam Navigation Company in 1840 and nine years later built the first railway in Chile—from Caldera to Copiapo, says that the publication of his volume in Spanish in Valparaiso brought to light an interesting gold medal awarded to Wheelwright by the Chilean Government in 1850, in accordance with the decree of President Manuel Bulnes, to commemorate these achievements. It was found in a jeweller's shop in Valparaiso and is now in the possession of a correspondent of the Pacific Steam Navigation Company. President Bulnes's decree, dated September 17, 1850, enacted that "A gold medal shall be struck for presentation to Don Guillermo Wheelwright" . . . (and) . . "shall bear on the obverse the coat of arms of the Republic, and the following inscription: The Government of Chile to Don Guillermo Wheelwright, 18th of September, 1850, and on the reverse a steamship in the centre, and the following text: A Testimony Of Gratitude For Having Introduced Steam Navigation And Promoted Railway Enterprise In Chile." Wheelwright, who was an American by birth, died in London in 1873, but was buried in his native town of Newburyport, Massachusetts. A statue to his memory was erected in Valparaiso in 1877, and another medal was struck, for distribution by the municipality, to mark the occasion. The statue also commemorates (which the present medal does not) the fact that, in 1850, Wheelwright established, in Chile, the first South American telegraph service. We are indebted to the Editors of *Engineering* for permission to reproduce the illustrations of this unique medal.

* * *

Boys from Aldenham School are helping London Transport to reclaim and plant two derelict farms at Brockley Hill and Little Bushey Lane, Elstree. London Transport appealed for help to the headmaster of the school. At first seven boys were sent; now 60 are employed. They are aged 13 to 18 years, and work in the afternoon according to a roster that does not interfere with their lessons. They have slashed the hedges, which had grown 40 ft. wide, and dug ditches. Now they are planting potatoes and onions and hoeing crops. London Transport is now cultivating 130 acres of land on which potatoes, onions, cabbages, tomatoes, and other vegetables are being grown for the staff canteens. In addition, employees are cultivating 2,300 allotments, comprising 80 acres, on London Transport property.

* * *

MODERN TRANSPORT IN CHINA: A FLEET OF WHEELBARROWS UNDER SAIL

The Reuters correspondent with the Chinese forces in central China, describing a journey in a lorry full of hand grenades says: "We passed numbers of squeaking wheel-barrows laden with bales of cotton and bound for Shasi. Many were big enough to require the efforts of three men to move them. They were assisted by sails set on bamboo poles from the sides in order that advantage could be taken of the brisk following wind. It was the first time I had seen a fleet of wheelbarrows under sail."—*From the "North-China Daily News."*

* * * *

RAILWAY PIE

London Ticket Collector: "That your sewing machine, Ma'am?"

Passenger: "Yes."

Ticket Collector: "Then you left a pie on it."

Passenger: "I left a pie on it?"

Ticket Collector: "Yes. You left a pie on it."

Passenger: "But I didn't. It wasn't my pie. Oh! you mean I'll have to pay."

Ticket Collector: "Yes. You left a pie."—*From the "G.W.R. Magazine."*

Gold medal awarded to William Wheelwright in 1850 in acknowledgment of his having introduced steam navigation and promoted railway enterprise in Chile.

They're Telling Us

By Bert Thomas

"No one at this late date needs to be told any longer about the Englishman's bravery."
—*Negley Farson.*
From the "Newcastle Journal"

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

ARGENTINA

Another Heavy Maize Crop

According to the figures issued by the Ministry of Agriculture, this year's maize crop is estimated at 10,600,000 tons, one of the heaviest on record, and nearly 3,000,000 tons above the average for the last five years. This figure has only twice been exceeded—in 1931 when the crop amounted to 10,660,000 tons, and in 1935, when it reached the record total of 11,480,000 tons. With an existing unsold surplus of between five and six million tons, remaining over from last year, the problem of disposing of another 10½ millions is one which, in view of world conditions generally, may not be solved. The announcement of the Government's intention to purchase the crop at a basic price of $4.75 a 100 kg. is estimated to involve an additional loss to the National Exchequer of something like 150,000,000 pesos.

Rice Crop Estimates

This year's Argentine rice crop is estimated at 95,000 tons, or 2,000 tons less than last year, but considerably above the average for the last five years, which is slightly over 63,000 tons. The last few years have witnessed a considerable increase in the acreage devoted to the cultivation of this cereal in Argentina. Production rose from 5,270 tons in 1930-31 to 34,913 tons in 1934-35. In 1937-38 it was 48,013 tons, and in the following year it amounted to 100,932 tons, a slight decline to 97,000 tons being registered last year.

Government Coal Scheme and other Developments

In view of the difficulty of obtaining adequate supplies of imported coal, owing to the war, and the possibility of a serious shortage in the near future, the Government, through the medium of the Ministry of Agriculture, has instructed the National Oilfields authorities to carry out a coal prospecting scheme, in collaboration with the Department of Mines and the Quarter-Master General's Department of the Ministry of War.

It is stated that production will be assisted by means of bank credits and other financial facilities, where the prospective results warrant such expenditure. A committee of technical experts has already been appointed to investigate possibilities of exploitation and development, particularly near existing railways.

The first consigmnent of 250 tons of coal from a mine at Malargue, in the Province of Mendoza, was recently transported to Buenos Aires by the B.A.P.R., and inspected by officials of the Ministry of Agriculture and the National Fuel Commission. The price on rail in Buenos Aires is about $50·00 a ton (a little over £3 at the current rate).

MEXICO

North Western Railway

At the end of January, 1941, the North Western Railway had 880 freight wagons in operation, including 341 box wagons, 36 single-deck livestock trucks, 354 steel logging trucks, 125 flat trucks, 15 coal wagons, 7 turpentine tank wagons, and 2 cabooses. The combined passenger, baggage, and mail equipment totalled 21 vehicles, made up of 12 coaches, 3 parlour cars, 1 express baggage van, 2 mail, express, and baggage vans, 1 officer's coach, and 2 passenger, baggage and mail composites. In addition, the railway had 30 oil-burning locomotives in operation.

The line is of standard gauge with single track totalling 766 km., all of which, like the rolling stock, is reputed to be in poor condition, according to the American Consulate at Ciudad Juarez. Moreover, it is stated that funds are not available for the reconditioning or replacement of this equipment by the railway itself. It may be remembered that the common stock of this concern was acquired by the Mexican Government on July 29, 1940.

WESTERN AUSTRALIA

Katanning Water Supply

At Katanning, one of the principal railway depots on the Great Southern line, water for railway purposes is obtained from the town supply, the railways paying a guarantee of £500 *per annum* for a minimum of 5,000,000 gal. and 2s. a thousand gallons for all water taken in excess of that quantity, provided that in any year when water is not available to the full minimum quantity, payment is only made for water actually supplied. The water storage is by means of dams, and on a number of occasions in recent years owing to the dry seasons experienced, the minimum of 5,000,000 gal. has not been available, and haulage of water has been necessary, and is so at the present time.

The Katanning Water Board has borrowed from the Treasury £20,000 for bitumenising an area of 60 acres of the catchment to improve the run off into the main reservoir, and it is expected that a much greater volume of water will be available.

CHINA

Construction in Yunnan

It is now reported that 178 km. in all of permanent way and other equipment have been or are to be dismantled from the Chinese section of the French Yunnan—Indo-China Railway by the Chinese Government, which now controls that section. Some of this has already been used to equip the Kunming-Chuching section—recently opened for traffic—from Kunming towards Suifu and Chungking. The next section of line to be opened from Kunming is to Anning on the Yunnan-Burma line.

Damage to Railways by Guerrillas

In North and Eastern China guerrilla forces have been particularly active recently. On June 3 a mine was detonated on the Peking-Hankow Railway, blowing up a passenger train, and killing and injuring many passengers. On the Nanking-Shanghai line also, another train was dynamited and wrecked.

U.S.S.R.

Moscow Traffic

Eleven lines of railway now run into Moscow and are served by nine stations. To give some idea of the volume of traffic handled in the city area, it may be stated that during 1939, 200,000,000 tickets were issued for various destinations, and 4,300,000 *tonnes* of outwards and 22,900,000 *tonnes* of inwards goods were handled. Inwards traffic consists of coal, petroleum products, metals, timber, and grain, and outwards of machinery and manufactured metal goods and foodstuffs.

DENMARK

Fall in Suburban Traffic

During 1940 Copenhagen suburban lines carried 25,900,000 passengers—as compared with 30,300,000 in 1939—to and from the termini of the capital. Between suburban stations 2,500,000 passengers were carried during last year which compares with 2,600,000 in 1939.

Containers to be Used

Hitherto the StateRailways have not used containers, but they have now decided to introduce a 10½-cu. ft. container having a maximum capacity of 1 *tonne*, and the building of 600 of these has been authorised.

SPAIN

Nationalisation

The Northern of Spain and Madrid, Zaragoza & Alicante companies have appealed against the amounts of the annuities fixed by the Superior Railway Council as compensation for taking over their lines under the Nationalisation Law of January 24, 1941. The companies now have the right to present an expert valuation of their properties, and the Government decides between this and that of the council. Other broad-gauge companies have appealed.

New Spanish-built Locomotives

The Spanish firm of Babcock & Wilcox, of Bilbao, has delivered the first of a series of 50 locomotives, ordered under the Government scheme for the National broad-gauge railways.

ELECTRIC TRACTION SECTION

Soviet Electrification

THERE is no question that in the electrification of its railways the U.S.S.R. has failed lamentably to implement original proposals. In 1932 there were scarcely 100 route miles operated by electric traction, but the second Five-Year Plan (1933-37) provided for many important conversions, including the Ural—Kuzbass line, 1,000 miles long, a network of lines in the Donbass which had dense traffic, and the whole of the trans-Caucasian line from Baku to Batum. Today, nine years later, the conversion of the Ural—Kuzbass main line is not even begun and scarcely half of the trans-Caucasian line is electrically worked. A number of the lines in the Donbass are electrified on the 3,000-volt d.c. system, and the Moscow suburban sections of nearly all the main routes radiating from the Soviet capital have been converted to 1,500 or 3,000 volts d.c. As far as can be ascertained, there is no more than 1,200 route miles of line electrified in the U.S.S.R., and the rate of progress seems to have slowed down.

Early Proposals

If the grandiose first proposals of the second Five-Year Plan had been accomplished, something like 15,000 route miles would have been electrified by the end of 1937, equivalent to about 27 per cent. of the total, and carrying probably 45 per cent. of the whole traffic, but by 1935 the proposals had been cut down to 3,600 route miles, and the actual conversion was less than 20 per cent. of this figure. At the moment, about 2 to 2¼ per cent. of the route mileage is electrified, and probably does not carry more than 3½ per cent. of the traffic.

In the early stages, the state of the Soviet electrical industry was not sufficiently advanced to enable more than odd items of electric traction equipment to be made, and much material, particularly for the Moscow suburban and Urals areas, was supplied by Metro-Vick. At a later period American and Italian manufacturers supplied traction equipment, and for the electrified feeder lines (mainly 750 volts d.c.) in the metalliferous areas in the Urals and the coal area of the Kuzbass, German builders were to the fore. Despite the amazing intentions of the second Five-Year Plan, it was not until 1932 that the construction of the first electric locomotive factory—that at Kashira—was begun. In recent years the majority of material for railway electrification has been supplied by Soviet works, but the increase in electrified mileage does not appear to have advanced by more than 200 miles in the last two or two and a half years, and it is possible that the inexperience of the electrical works is alone responsible for the slow rate of progress of railway electrification.

Suburban Electrification

Practically all the main lines radiating from Moscow have now been electrified for short distances from the capital, covering the normal suburban portions, and, in the case of the Northern line, something more, the electrified line extending to Alexandrov, about 80 miles from the city. The Northern railway, leading to Vologda and Archangel, but used by the Trans-Siberian passenger trains as far as Danilov, was the first to be converted, and the inner section out to Mitischi has been worked for 12 years on the 1,500-volt d.c. system. The suburban train sets run as far as Sagorsk, 56 miles from the Northern station in Moscow, but some special faster multiple-unit trains have been built for the services which run to Alexandrov. Other lines electrified are Moscow—Obiralovka, 15 miles (Kursk line); Moscow—Ljuberzi—Ramenskoye, 20 miles (Kazan line); Moscow—Tsaritsino, 11 miles (Tula line), with conversion on to Podolsk in progress; and Moscow—Bikovo. It is believed, too, that some of the Moscow—Golizino—Svenigorod line and the Moscow—Krynkovo line have been converted.

Electrification in the Leningrad area appears to be confined to the 25-mile section from the city to Oranienbaum, on the October line, running along the south shore of the Gulf of Finland. The system here is also 1,500 volts d.c., but a tension of only 1,200 volts is used for the suburban lines running from Baku round the Apsheron peninsula. Another small conversion in the Caucasus is the Mineralvodskaia line with 3·6 per cent. grades, which is a branch from the main Rostov—Armavir—Gudermes—Baku line.

Main Line Conversions

The main lines now worked electrically are in widely-separated areas, and are by no means the most heavily-trafficked lines in the Union, except the Dolginzevo—Saporoshie—Chaplino—Debalzevo line in the Donbass. The other lines mainly carry a good deal of mineral or freight traffic, and were limited in capacity because of heavy grades and tunnels, an example being the first of the 3,000-volts d.c. conversions, the Zestafoni—Stalinissi (Suram pass) section of the trans-Caucasian line, the main traffic over which is the Baku—Batum oil trains and returning empties. Subsequent extensions eastwards have been made from Stalinissi to Tiflis. The same reason applied to the second high-tension d.c. electrification, that from Kizel to Chussovskaia in the Urals, and its main-line continuation to Sverdlovsk *via* Goroblagodatskaia (*Electric Traction Supplement*, September 15, 1939), but heavy coal traffic alone was the reason for the conversion of the Donbass line already mentioned, the grades on which are not steeper than 1 in 150. The Murmansk line is to be electrified throughout, and the northern section between Kandalaksha and Murmansk is reported to be complete.

Several important freight lines which, according to one or other of the Pyatiletkas (Five-Year Plans), were to be converted from steam to electric traction, or worked electrically from their opening, are still steam worked. Prominent examples are the Moscow—Donbass direct coal line, the Magnitogorsk—Kartaly—Orsk—Cheliabinsk group of lines in the Ural mineral area, the Akmolinsk—Kartaly coal line, and the Cheliabinsk—Novosibirsk section of the Trans-Siberian. The Belovo—Stalinsk section of the Kussbass line is operated by electric locomotives, but whether the intended electrification of the 180-mile double-track freight cut-off line from near Belovo to Novosibirsk has actually been effected we do not know. Early proposals for main-line electrification, beginning with the second Pyatiletka, were given in detail in the issue of the Electric Traction Supplement for December 15, 1933, and a comparison between that article and this will show how few of the early proposals have come to anything.

As a rule power for the electrified railways comes from steam stations notably in the Moscow, Leningrad and Baku suburban areas, but the Dolginzevo—Debalzevo line in the Donbass is believed to be supplied with energy from the well-known Dnieprostroi hydro-electric station. Power for the Murmansk line is being provided by two hydro-electric stations, one on the Tuloma river, a tributary of the Kola, and the other on the Neva.

Weight Transfer in Electric Locomotives

A study of its effects on static axleloading in six-wheel trucks and locomotives

By H. J. HAMMERSLEY

WEIGHT transfer occurs when a locomotive is pulling a load, and reaches its maximum value when the drawbar pull is greatest at starting. The drawbar is located a few feet above the rail, but the tractive effort is applied at the rim of the driving wheels, so that a mechanical couple is formed. The pull at the drawbar causes some of the weight on the leading drivers to be transferred to the rear drivers, and with short wheelbases this transfer may be as much as 10 per cent., or even more. With independent axle drive the drawbar pull is limited by the weight on the leading drivers, as use cannot be made of weight transferred to the rear axle. As more and more power is fed into the motors, the leading pair of wheels will slip, first throwing the load on the others, which in turn will also slip. The following calculations show the forces which come into operation when tractive effort is being exerted through a six-wheel truck or locomotive, but which are non-existent when the locomotive is at rest.

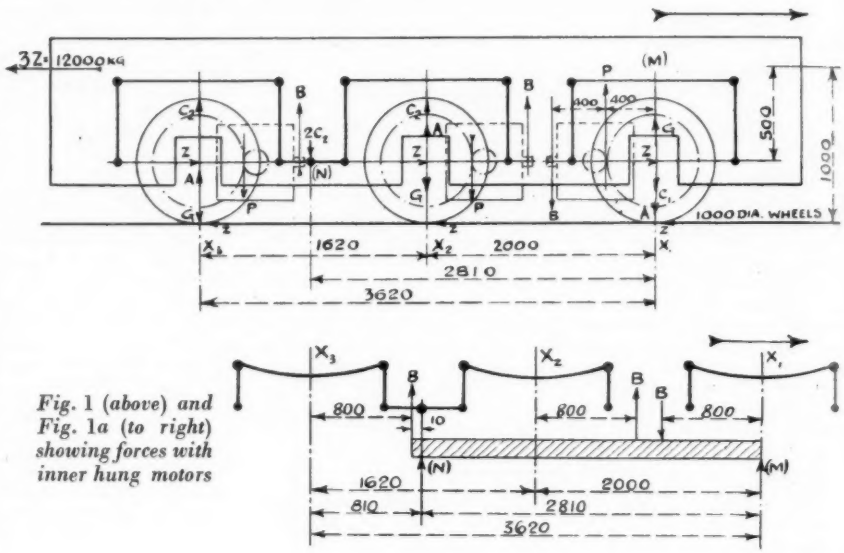


Fig. 1 (above) and Fig. 1a (to right) showing forces with inner hung motors

(1) P .. Tooth load between pinion and gear wheel.
(2) A .. Load in axle bearings of the traction motors.
(3) B .. Reaction at motor anchorage to frames.
(4) C .. Forces acting through main bearing springs.
(5) G .. P − A, acting directly on the dead weight.

Forces P and A work in contrary directions. When the locomotive changes its direction, these forces do likewise. For the purpose of comparison a tractive effort of 12,000 kg. has been taken and a coefficient of adhesion of 0·25. Referring to Fig. 1 :—

$$P = \frac{4,000 \times 500}{400} = 5,000 \text{ kg.}$$

$$B = \frac{5,000 \times 400}{800} = 2,500 \text{ kg.}$$

A = P − B = 2,500 kg. acting in the same direction as B.
G = P − A = 2,500 kg.

G may be found directly from Fig. 1, thus :

$$G = \frac{4,000 \times 100}{2 \times 80} = 2,500 \text{ kg.}$$

To determine the forces C derived from the drawbar pull and acting at the points (M) and (N)

(6) $$C = \frac{12,000 \times 500}{2,810} = -2,140 \text{ kg. acting on axle X.}$$

$$X_2 = X_3 = \frac{2,140}{2} = 1,070 \text{ kg.}$$

To determine the forces C derived from the motor torque reactions at B, moments are taken in relation to points (M) and (N), Fig. 1*a*.

Moments about (M)

$$= \frac{2,500 \times 800 - 2,500 \times 1,200 - 2,500 \times 2,820}{2,820}$$

$$= -2,865 \text{ kg.}$$

This force is equally divided between axles X_2 and X_3

$$= -1,432 \text{ kg.}$$

(7) Moments about (N)

$$= \frac{2,500 \times 10 - 2,500 \times 1,610 + 2,500 \times 2,010}{2,820}$$

= 364 kg. acting on axle X_1.

Combining (6) and (7)

X_3	X_2	X_1
+ 1,070	+ 1,070	− 2,140
− 1,432	− 1,432	+ 364
− 362	− 362	− 1,776

Hence $C_1 = -1,776$ $C_2 = -362$.

Then for the example shown in Fig. 1 the transfers are given by :

$X_1 = -G - C_1 = -2,500 - 1,776 = -4,276$ kg.
$X_2 = +G - C_2 = +2,500 - 362 = +2,138$ kg.
$X_3 = +G - C_2 = +2,500 - 362 = +2,138$ kg.

Referring to Fig. 2, forces A, B and C are the same as those relative to drawbar pull, are the same as those given for Fig. 1. Proceeding to determine the forces C derived from the motor torque, see Fig. 2*a* :

Moments about

$$(M) = \frac{2,500 \times 800 + 2,500 \times 2,800 + 2,500 \times 4,420}{2,810} = 7,135 \text{ kg.}$$

This force being equally divided between axles X_2 and X_3 = 3,567·5 kg.

(8) Moments about

$$(N) = \frac{-2,500 \times 1,610 + 2,500 \times 10 + 2,500 \times 2,010}{2,810}$$

= 365 kg. acting at axle X_1

Combining (6) and (8)

X_3	X_2	X_1
+ 1,070	+ 1,070	− 2,140
+ 3,567·5	+ 3,567·5	+ 365
+ 4,637·5	+ 4,637·5	− 1,775

Hence $C_1 = 1,775$ and $C_2 = 4,637·5$

Fig. 2 (right) — Forces involved in six-wheel bogie with all three nose-suspended motors hung the same way

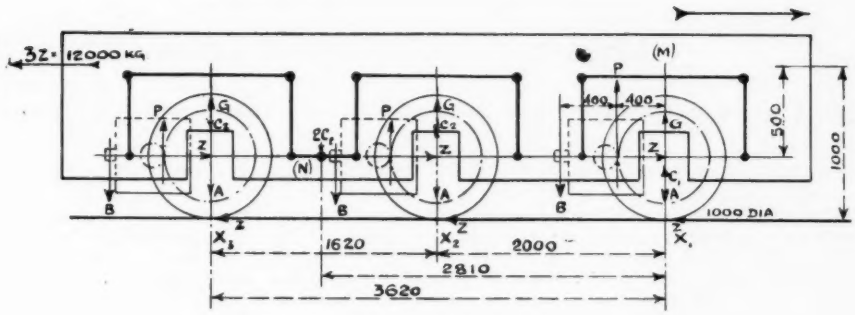
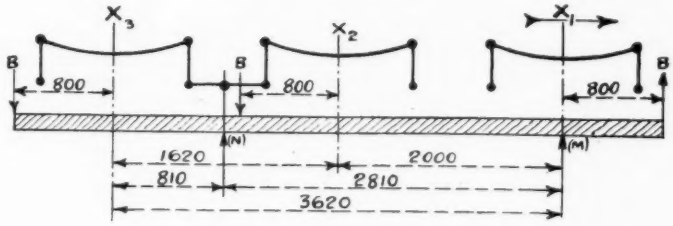


Fig. 2a (right) — Diagram of forces from motor torque reaction with motors hung as shown in Fig. 2 above



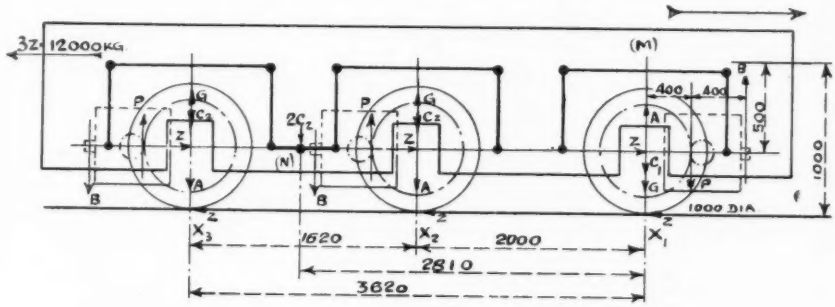


Fig. 3 (left) — Forces involved in six-wheel bogie with two motors hung in one direction and one in the other

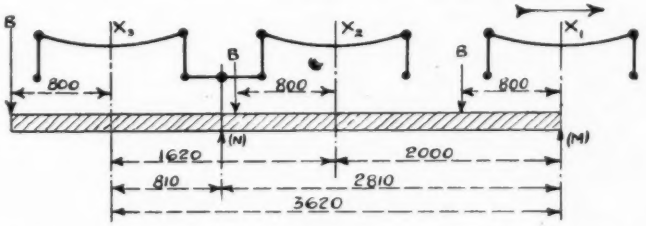


Fig. 3a (left)—Diagram of forces from motor torque reaction with nose-suspended motors hung as shown in Fig. 3 above

Then for the example shown in Fig. 2 the transfers are given by :

$X_1 = -G - C_1 = -2,500 - 1,775 = -4,275$ kg.
$X_2 = -G + C_2 = -2,500 + 4,637 \cdot 5 = +2,137 \cdot 5$ kg.
$X_3 = -G + C_2 = -2,500 + 4,637 \cdot 5 = +2,137 \cdot 5$ kg.

Referring to Fig. 3, forces A, B and C relative to drawbar pull are the same as given for Figs. 1 and 2. Determining the forces C derived from motor torque reaction, see Fig. 3*a* :
Moments about

$$(M) = \frac{-2,500 \times 800 + 2,500 \times 2,800 + 2,500 \times 4,420}{2,810} = 7,135 \text{ kg.}$$

and is equally divided between axles X_2 and $X_3 = 3,567 \cdot 5$ kg.

(9) Moments about

$$N) = \frac{-2,500 \times 1,610 + 2,500 \times 10 - 2,500 \times 3,610}{2,810} = -4,635 \text{ kg.}$$

acting at axle X_1

Combining (6) and (9)

X_3		X_2		X_1
+ 1,071	+	1,071	−	2,140
+ 3,567·5	+	3,567·5	−	4,635
+ 4,637·5	+	4,637·5	−	6,775

Hence $C_1 = -6,775$ and $C_2 = 4,637 \cdot 5$

Then for the example shown in Fig. 3 the transfers are given by :

$X_1 = +G - C_1 = +2,500 - 6,775 = -4,275$ kg.
$X_2 = -G + C_2 = -2,500 + 4,637 \cdot 5 = 2,137 \cdot 5$ kg.
$X_3 = -G + C_2 = -2,500 + 4,637 \cdot 5 = 2,137 \cdot 5$ kg.

It will be seen from the above examples that the final result of the forces acting through the main springs in conjunction with the forces acting directly on the dead weights of the wheels and axles produce the same effect at the rail in all three arrangements. In order to develop a tractive effort of 12,000 kg. with a coefficient of adhesion of 0·25, the static axleload (neglecting weight transfer) would require to be 16,000 kg. or 16 *tonnes*. Taking into consideration the effect of weight transfer, in which case the leading axle is unloaded by 4,276 kg., and the rear axles unloaded by 2,138 kg. when running in the opposite direction to that indicated in the diagrams, the required axleloading will result as follows :

X_3	X_2	X_1	Total
16,000 kg.	16,000 kg.	16,000 kg.	= 48,000 kg. (static)
+ 2,138 kg.	+2,138 kg.	+4,276 kg.	8,552 kg. (weight transfers)
18,138 kg.	18,138 kg.	20,276 kg.	56,552 kg.

High-Speed American Inter-Urban Services

SOME of the fastest stopping-train services in the world are now being operated over electric railways in the United States. The first of the annexed tables, based on notes supplied by Mr. Donald F. Steffee, gives details of two runs from New York to Philadelphia, over the main line of the Pennsylvania Railroad, one with a 5-car and the other with a 6-car multiple-unit train, on a schedule which allows only 2 hr. 2 min. for a journey of 90·4 miles, with 19 advertised stops intermediately, and either one or two additional staff or conditional stops, so that the average distance between stops is only 4½ miles.

The train concerned is No. 255, leaving the Pennsylvania terminal at New York at 6.55 a.m., and carrying season-ticket holders from New York out to stations as far as New Brunswick, and from Trenton and beyond into Philadelphia, as well as a considerable amount of postal matter. The time-table shows only departure times, and makes little or no allowance for stops; at many stations these were cut down to between 5 and 20 sec., but at the busier stations times from 2 to more than 4 min. were needed, resulting in the trains being behind time on leaving Trenton.

As usual in American practice, however, point-to-point bookings are eased on the concluding stages of the journey, allowing some margin for recovery of lost time. On the first of the two runs, the overall time was cut from the scheduled 122 min. to 120 min. 39 sec., but on the second the actual time of 123 min. 52 sec. was nearly 2 min. over schedule; the latter loss was more than accounted for by a stop of 4½ min. at Trenton not allowed for in the timing of the train. Deducting the time spent at intermediate stops on the first run, the average running speed was as high as 50·1 m.p.h., inclusive of 22 accelerations from rest and an equal number of retardations to stop; while on the second run, with one less stop, the average speed was increased to 50·9 m.p.h. It will be noted that some extremely smart point-to-point times were made, such as Princeton Junction to Trenton, 9·7 miles in 9 min. 27 sec. and 9 min. 13 sec. (61·6 and 63·2 m.p.h. start to stop respectively); New Brunswick to Deans, 7·2 miles in 7 min. 15 sec. and 7 min. 5 sec.; Morrisville to Tullytown, 5·0 miles in 5 min. 20 sec.; Newark to Elizabeth, 5·5 miles in 6 min. 2 sec. and 6 min. 4 sec.; and others, which make it clear that some high speeds must have been attained between stops.

In the May 2, 1941, issue of THE RAILWAY GAZETTE an illustrated description was given of the new articulated Electroliner 4-car trains introduced recently by the Chicago, North Shore & Milwaukee Railroad, an inter-urban American line skirting the shore of Lake Michigan between Chicago and Milwaukee. Although the downtown extremes of this system use street tracks, it has always been noted for its high intermediate speeds, and since the introduction of the Electroliners these speeds have been even further increased. The present timetable contains a series of runs shown in Table II performed daily at over 60 m.p.h., and in each case the times, which are from start to re-start, include the standing time at one stop.

Table II.—Chicago, North Shore & Milwaukee Railroad
Daily start-to-stop runs at 60 m.p.h. and over, May, 1941

Train	From	To	Distance	Time	Speed	No. of Runs Daily
			miles	min.	m.p.h.	
Electroliner	Racine	Harrison	20·1	17	70·9	5
,,	North Chicago Jc.	Niles Centre	21·0	18	70·0	1
10 trains	Niles Centre	Lake Bluff	18·5	16	69·4	*10
Mundelein Express	,,	Briergate	10·2	9	68·0	1
Electroliner	North Chicago Jc.	Howard Street	26·0	23	67·8	1
,,	Kenosha	,,	44·0	39	67·7	1
,,	Harrison	Racine	20·1	18	67·0	5
,,	,,	Kenosha	44·0	40	66·0	1
,,	Zion	,,	8·7	8	65·3	*2
,,	Howard Street	North Chicago Jc.	26·0	24	65·0	*6
,,	Waukegan	Kenosha	15·0	14	64·3	*6
Mundelein Express	Briergate	Deerpath	5·3	5	63·6	2
Electroliner	Waukegan	Zion	6·3	6	63·0	1
9 trains	Niles Centre	North Chicago Jc.	21·0	20	63·0	9
Chicago Express	Lake Bluff	North Brook	11·3	11	61·6	1
2 trains	,,	Niles Centre	18·5	18	61·7	2
2 trains	,,	Howard Street	23·4	23	61·0	1
28 trains	Racine	Harrison	20·1	20	60·3	*28
37 trains	Kenosha	Racine	10·0	10	60·0	*37

* In both directions of running

Table I.—Pennsylvania Railroad—New York to Philadelphia
Details of two runs with multiple-unit stopping trains

Distance between Stations	—	Schedule Start to Re-start	5-car unit: Time between Stations	5-car unit: Time at Stations	6-car unit: Time between Stations	6-car unit: Time at Stations
miles		min.	min. sec.	min. sec.	min. sec.	min. sec.
0·0	NEW YORK	0	0 00	— —	0 00	— —
—	*Hackensack Bridge*	—	*Stop	0 15	*Stop	0 25
10·0	NEWARK	17	†13 09	1 43	†12 51	2 32
5·5	ELIZABETH	8	6 02	1 23	6 04	1 20
3·2	Linden	4	4 23	0 22	4 20	0 35
2·1	Rahway	3	3 17	0 30	3 05	0 42
3·3	Iselin	5	4 38	0 10	4 06	0 12
3·1	Metuchen	4	4 20	0 19	4 10	0 20
3·1	Stelton	4	3 51	0 05	4 01	0 06
2·4	NEW BRUNSWICK	4	2 59	0 56	3 18	1 35
7·2	Deans	7	7 15	0 22	7 05	0 22
2·5	Monmouth Junction	4	3 13	0 50	3 08	0 25
—	Plainsboro'	—	‡Stop	0 13	‡Stop	0 17
5·8	PRINCETON JUNCTION	7	‖7 12	0 55	‖7 08	1 17
9·7	TRENTON	10	9 27	1 58	9 13	4 25
1·4	Morrisville	3	2 10	0 05	Slack	— —
5·0	Tullytown	6	5 20	0 22	7 03	0 27
3·3	Bristol	4	4 13	0 42	3 53	0 52
4·5	Eddington	4	5 18	0 15	4 55	0 07
1·2	Cornwells Heights	2	1 35	0 07	1 45	0 18
2·1	Torresdale	4	2 47	0 13	2 45	0 18
10·4	NORTH PHILADELPHIA	14	10 45	0 32	10 35	0 47
4·4	30TH STREET	8	6 28	— —	7 05	— —
90·4	Totals (running and standing)	—	108 22	12 17	106 30	17 22
90·4	Overall times	122	120 min. 39 sec.		123 min. 52 sec.	
—	Average running speed	—	50·1 m.p.h.		50·9 m.p.h.	
—	Average overall speed	—	45·0 m.p.h.		43·8 m.p.h.	

* Service stop for employees † Excluding time standing at Hackensack Bridge ‡ Flag stop, not advertised
‖ Excluding time standing at Plainsboro'

This list makes a total daily mileage of 2,005, composed of 120 individual runs, all booked at 60 m.p.h. or over from start-to-stop; it will be noted that the Electroliner units are responsible for most of the faster runs. For the first time in the history of the C.N.S. & M., the Electroliner units are used on Sundays for making non-stop runs between the city limits of Chicago and Milwaukee, No. 809 running the 74·1 miles from Howard Street to Harrison in 65 min., at 68·3 m.p.h., and No. 808 from the Milwaukee terminal (including the use of a street tramway for the first 2·8 miles to Harrison at very low speed) to Howard Street, 76·9 miles in 77 min. non-stop.

Of the 285 Pennsylvania runs with electrically-hauled trains now booked daily at over 60 m.p.h., which aggregate in length 12,741 miles and so average 45 miles apiece, a number are made by the inter-urban trains, chiefly between New York and Philadelphia. Other inter-urban electric railways, such as the Chicago, South Shore & South Bend, have many fast short-distance runs in their timetables, some booked at over 60 m.p.h. from start to stop.

THE FRENCH RAILWAY SITUATION

A review of the locomotive conditions resulting from the partition of France—Extent of the war damage and progress of repair—Improvement schemes—Wartime traffic problems

FRANCE is at present divided by the terms of the 1940 Armistice into occupied and unoccupied zones, a division which has now been effective for a year. The line of demarcation begins in the neighbourhood of Bellegarde on the Swiss frontier not far west of Geneva, runs in a north-westerly direction to Dôle, veers sharply south-west to Chalon-sur-Saône and Paray-le-Monial, twists north to Moulins, Vierzon, and Tours, and makes its final plunge south, passing eastwards of Poitiers and through Mont-de-Marsan to Saint-Jean-Pied-de-Port in the Pyrenees. All ordinary communications between the occupied and unoccupied zones are hedged with severe restrictions, and take place only if the Germans derive some material or political advantage from such movements. This division has placed a considerable part of the French railway system in the hands of the enemy, and the railway position may be summed up thus. All the former Nord, Est, and Etat systems are cut off from unoccupied France; and Alsace and Lorraine have been declared a part of the Third Reich, with their railways incorporated into the Deutsche Reichsbahn.* The P.L.M. and P.O. position is more complicated. The P.L.M. main line from Paris to Marseilles is cut at Châlon-sur-Saône; the Bourbonnais lines from Paris to Vichy and the Saint-Etienne district are cut at Moulins and Paray-le-Monial; while the line to Switzerland is cut at Dôle. All the Besançon-Belfort line lies in German-occupied territory. The P.O. Paris-Limoges-Brive-Toulouse main line is cut at Vierzon, and the main line to Bordeaux is entirely in German hands.

The Locomotive Position

Any estimate of the rolling-stock position is difficult, as no reliable information is available of the movements made as the Germans advanced to avoid letting locomotives fall into their hands. In view of the rapidity and method of the German advance, however, it is doubtful whether any large numbers of locomotives were able to get away to safety, and it was extremely difficult anyway to tell in which direction safety lay. Presumably most locomotives of the Nord, Est, Alsace-Lorraine, and Etat are in German-occupied France, and a goodly sprinkling of those of the P.L.M. and P.O.-Midi have probably fallen into enemy hands. An idea of the numbers of P.L.M. locomotives in the occupied zone may be gained from the following list of "occupied" depots with approximate numbers of their locomotives: Paris (150), Villeneuve (120), Laroche (200), Montargis (100), Les Laumes (90), Dijon-Perrigny (220), Dôle (110), Besançon (140), Lons-le-Saunier (50), Chalon (180), Nevers (200) and Paray-le-Monial (150), a total of approximately 1,700 locomotives, out of a total of about 5,300. The P.L.M. probably lost at least one-third of its rolling-stock, apart from further exactions by the Germans since the Armistice. On the P.O. the Paris depot at Ivry was given over almost entirely to electric locomotives, and many of these, along with some from the Etat lines between Paris and Le Mans, are reported to have been commandeered by the Germans, possibly to work on their own lines in Austria or Bavaria.

The places touched by the demarcation line are, in some cases, far from suitable for heavy exchange traffic of any sort, but this is of relatively minor importance as the Germans allow little movement from north to south unless it is essential to their requirements. In any event, they would be chary about allowing large numbers of wagons or locomotives to pass from the occupied zone without exacting a return from the unoccupied part of France.

The repair of locomotives in the unoccupied zone affects only the P.L.M. and the P.O., as the rolling stock of lines entirely in the German zone can be repaired as and where the Germans think necessary. Normally, repairs were effected in the works of the company or in such depots as could undertake them. The P.L.M. had four works, Nevers, Oullins, Arles, and Nîmes, and the last three are still available. The P.O. position is not so good, as with three large works at Tours, Ivry, and Périgueux, only the last-named is left in unoccupied France. In the occupied zone, the Etat had two large works, one at Batignolles just outside Saint-Lazare, and the other at Sotteville, on the Paris side of Rouen. The latter is also known as the Ateliers de Quatre Mares, and was mainly a development of the last war, although there had been a works near the present site for many years. The Nord works are at La Chapelle and Hellemmes. The former, about one mile from the Gare du Nord, on the west side of the line, began to build engines about 1856, and generally turned out a few machines every year. The last engines to be built there were the 2-10-0 of 1933 and 1934, numbered 5.1201 to 5.1208, which were stationed at Lens and worked coal trains from there to the Paris region. Hellemmes was a newer creation, the first engines appearing in 1900 and the last in 1935. The last locomotives built there were the balance of the 2-10-0 up to 5.1230, also stationed at Lens. In addition to these two works, many of the larger sheds could undertake heavy repairs, this being the case at Amiens, Longueau, Laon, Tergnier, and Coudekerque. The Est works are at Epernay, on the main line from Paris to Nancy, and engines have been built there since about 1856 to the number of about 900; one of the last to appear was the first of the three-cylinder tanks, 141.701, specially designed for the Paris suburban service.

Generally speaking, the P.L.M. had not engaged in locomotive construction for some years, the practice being to allot such work to private contractors, although extensive rebuilding of certain types had been undertaken by the company's own shops. Originally there was a works of fair size at Paris, but this was dismantled some years ago to make room for improvements to the Gare de Lyon. The last new engines to come from the Paris works were built in 1909, and Oullins and Arles had ceased building by 1914. The other works at Nîmes had not built any engines since 1858, and had been given over entirely to repair work. Both the works at Nîmes and at Arles had been the property of the Chemin de Fer de Lyon à la Méditerranée, and on the formation of the P.L.M. in 1856, the decision was taken to build at Paris and Arles only. Oullins was not acquired until the early 1860's. Much rebuilding however was done in the various shops, although the practice of not indicating any origin on the engines made works identification difficult. This particular practice of the P.L.M. goes back to an article which appeared in *Le Matin* in 1908, in which a writer drew attention to two noticeable features of P.L.M. locomotives at that time, namely, the foreign origin (often Henschel of Kassel) of many engines and the extreme antiquity of many others. This particular attack, although partly justified by facts, was somewhat misleading. Nevertheless, a circular letter was sent to all engine sheds on the line, instructing foremen to remove all makers' plates from the locomotives, particularly if the makers were not French. Few escaped the ban, although there are still some very odd exceptions. Moreover, it was stipulated that all new engines built by French firms should have a special maker's plate which would show merely the name of the works responsible for construction. This again, showed some strange exceptions, as for example, the 2-8-0 engines of series 140A, which all bear a normal maker's plate showing date of construction and works number. Of course, engines built for the other French lines still bore the usual type of maker's plate. The P.L.M. works at Nevers was actu-

* See page 508 of our May 2, 1941, issue

ally run by a private company in which the P.L.M. had a large interest.

The Locomotive-Building Industry

All French lines sent engines to firms engaged in locomotive building for general repairs, and not necessarily to those situated nearest their own system. This explains why it was possible to see engines a long way from their parent line, even before the formation of the S.N.C.F. made transfer from one section to another more frequent. Most of the firms engaged in the construction of railway material are situated in occupied France.

The largest company devoted almost entirely to railway material is the Société Alsacienne de Constructions Mécaniques, with large works at Graffenstaden (near Strasbourg), Mulhouse, and Belfort. This undertaking was originally two separate concerns, the earlier of which was established by André Koechlin of Mulhouse, who first built engines towards the end of the year 1839, and continued to do so until 1,412 machines had been turned out. The first engine of the Usine de Graffenstaden did not appear until 1857, but the not inconsiderable total of 705 engines had been produced when, just after the Franco-Prussian War of 1870-1871, it was decided to amalgamate with the Koechlin firm of Mulhouse. The first locomotive to appear with the new company's name bore the works number 2118 and the date 1871. After the loss of French markets caused by the cession of Alsace-Lorraine to Germany, the company set up a new works at Belfort, which built many engines for France and abroad until 1924, when it was decided that only electric engines would be built there, and Graffenstaden concentrated on steam locomotives. More than 7,700 engines had been built by the year 1939, and the works had an annual capacity of about 120 engines of all types and gauges. This company built the well-known French Atlantics of the (British) Great Western Railway, Nos. 102-104, which, apart from a batch of engines built for the old Great Eastern Railway by Schneider at Le Creusot, were the only French engines ever to work in this country.

The firm of Schneider, with its crossed guns trade-mark, was founded by an Alsatian family, and had its principal works at Le Creusot, with various other plants scattered about France. Le Creusot is one of the largest steel works in Europe, and normally turned out a considerable quantity of war material as well as locomotives. The first engines to be built came out in 1839, and consisted of a series of six for the Saint-Germain Railway. From that time locomotives continued to be turned out for all the French railways and for many foreign customers, particularly Spain, Italy, and Russia. It was as long ago as 1866 that the batch of engines built for the Great Eastern Railway, Nos. 407-416, came over here.

The Compagnie de Batignolles-Chatillon, a successor to the Compagnie des Batignolles, Paris, began building engines in 1921. The original works, established under the name of Ernest Gouin, was displaced by the extensive improvements undertaken by the French State Railways, in connection with the approaches to Saint-Lazare. A large and modern works was set up at Saint-Joseph near Nantes, and a handsome order of 200 Pacifics, of the standard Etat type, was the first executed in the new premises. The first hundred of these were sent to the Etat, the second was split between the Etat, Est, and Paris-Orleans systems. The last-named, which took 20, subsequently sold them to the Alsace-Lorraine administration, and they have presumably been incorporated into the stock of the Deutsche Reichsbahn. Ernest Gouin had built over 2,000 engines by the time the migration took place, and since 1921 Batignolles-Chatillon has turned out over 500 machines of all types, mostly for France, but a few have been built for overseas.

As the name implies, the Compagnie de Fives-Lille has its principal works at Lille, although there is at least one large subsidiary at Givors, near Lyons. Most of the engines built by this company in recent years, however, have come from the works at Fives, and only small numbers have been built at Givors. Originally, the company began to build engines in the early 1840's under the name of the Ateliers Tourasse at Oullins, near Lyons. The name then changed to Clément Désormes and later to Parent-Schaken. In 1861 the firm sold out to the P.L.M., moved to Fives, and began a period of joint construction with the Paris firm of J. S. Cail. The joint affair was styled the Participation Parent-Schaken Fives-Lille Houel at Caillet, although only those locomotives built at Fives bore this legend on their maker's plates, the Cail engines retaining the name of Cail. At the time this period of joint building began, Parent-Schaken had built 284 machines and Cail 764; but, instead of adding these, the first engines built under the joint arrangement took the works numbers from 765 upwards, until they reached at least 1,578. This was in 1867 when the two concerns separated. The Givors works of Fives-Lille was established as a direct result of the 1914 occupation by the Germans of the principal works at Fives, and the present arrangements, whereby France is divided, may have similar consequences in causing Givors to become an important locomotive-building place.

The Compagnie des Forges et Aciéries de la Marine et d'Homécourt has many works in various parts of France, including one at Saint-Chamond, near Saint-Etienne. It was not until after the last war, in 1921, that railway locomotives began to be built by this company, and up to 1937 some 250 engines had been built, all for the P.L.M. In that year, however, a batch of the famous Chapelon Pacifics was built for the Nord, Nos. 3.1111 to 3.1120. Saint-Chamond is now the only works in unoccupied France which could undertake the construction of new engines or the repair of old ones.

The firm of Cail, now known as the Compagnie Française de Constructions Mécaniques, began to build engines in Paris in the 1850's, and remained there until 1898, when, owing to the cramped situation of the old works, a move was made to Denain, near Valenciennes. During this shift, a fire destroyed the complete archives of the company, so that the present records do not go back earlier than 1898. Cail turned out many engines for all the French lines and little information is available on these, except for some recorded by enthusiasts.

The Ateliers de Construction du Nord de la France, with works at Blanc-Misseron, did not enter the locomotive industry (so far as standard gauge is concerned) until 1913, when the first engines were built for the Est. Many narrow-gauge engines for the light railways of France had been built, however, and two separate works number lists was used, the reason for which is not known. Incidentally, the old carriages on the Piccadilly tube, with their hand-operated steel lattice-work gates, were built by the same company in 1906, and remained in use until replaced by the present rolling stock of the Piccadilly Line.

There are one or two smaller companies engaged in the construction of locomotives, but these were mostly for industrial or narrow-gauge lines. Of all the firms described, only one (the Forges et Aciéries de la Marine of Saint-Chamond) lies outside the German occupied zone of France. This puts the unoccupied railway system at a great disadvantage, which the Germans doubtless realised.

War Damage

Precise information of the damage suffered by the French National Railways system during the period of fighting in Northern and Central France last year took a considerable time to collate, but eventually it was found that 537 structures, of which 62 were overbridges and 475 underbridges, suffered. Reconstruction was begun as soon as practicable and the work in hand increased monthly, as shown by the number of workmen employed. These totalled:—

July, 1940 ...	1,250 men	October, 1940 ...	10,500 men
August, 1940 ...	4,500 ,,	November, 1940	11,500 ,,
September, 1940 ...	8,700 ,,	December, 1940	11,750 ,,

By the end of December, 1940, the number of structures restored had reached 390, although the great majority of them were temporary reconstructions. The progress of the work was as follows :—

	Temporary structures completed	Permanent structures completed
End of July, 1940	70	5
,, August, 1940	140	15
,, September, 1940	200	22
,, October, 1940	262	35
,, December, 1940	320	70

Of the total of 537 railway bridges and tunnels either

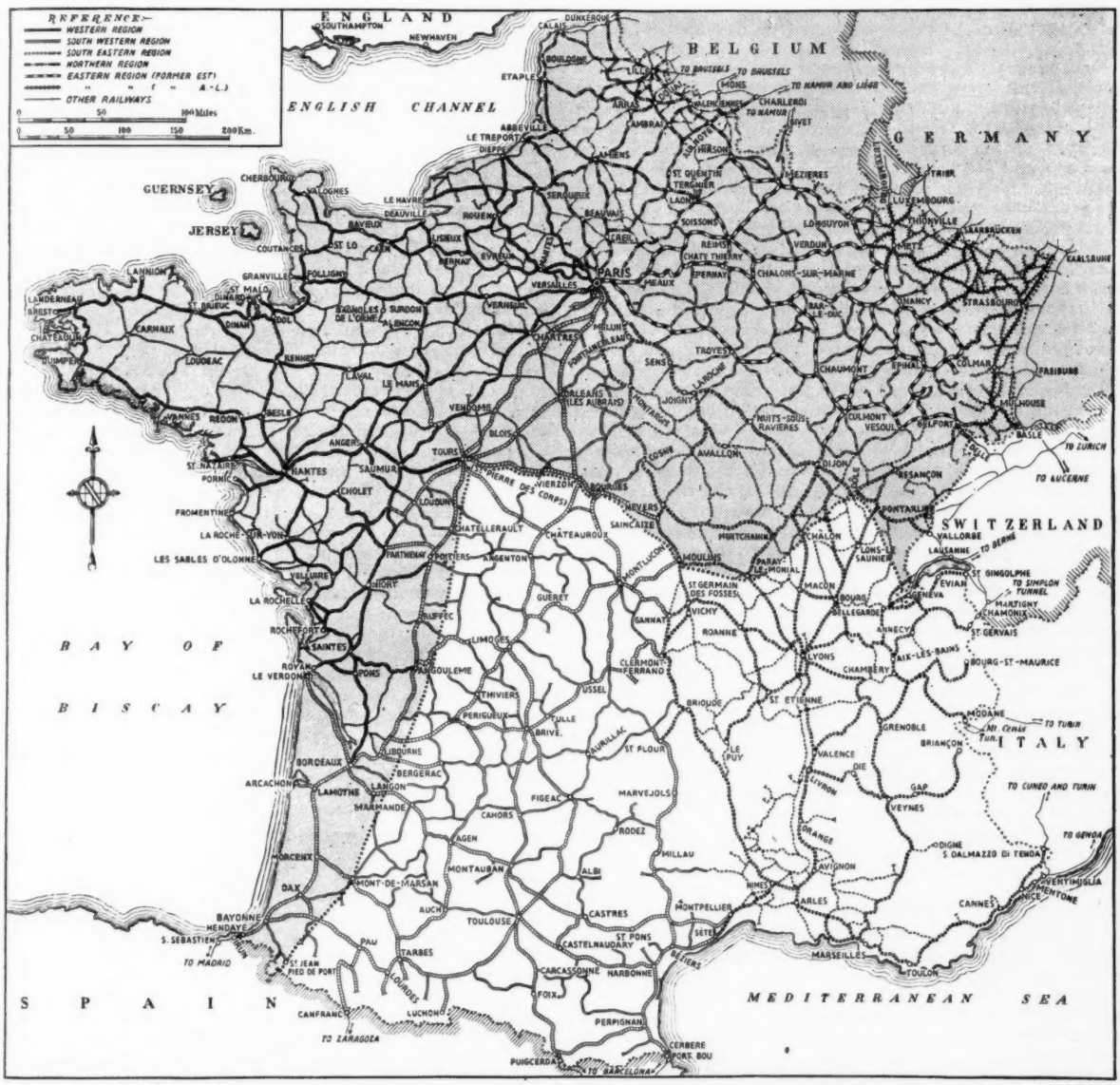
destroyed or heavily damaged during the fighting, the Eastern (Est Railway) Region alone accounted for 279, or slightly more than half the number. By the end of 1940 reconstruction had been begun at all but 27 places, apart from 29 points where it had been decided not to proceed with reconstruction at all in present circumstances. A difficulty to be overcome was the shortage of building material, including steel and cement, but it is understood that the German authorities co-operated with the French with a view to eliminating delays, as, of course, the Germans are the first to enjoy the advantages of the reconstructed railway system. The Todt Labour Organisation has been responsible for the German co-operation. By the end of June about 70 per cent. of the destroyed bridges and stations had been reconstructed, either temporarily or permanently, and it is expected that the total present reconstruction scheme will be completed by the end of 1941. The cost is estimated at 1,000,000,000 French francs, a small amount as compared with the railway reconstruction cost after the 1914-1919 war.

Between the regions north and south of the Loire, the three main railway lines (Paris-Bordeaux, Paris-Toulouse, and Paris-Roanne) were cut as the result of the fighting; and the only possible railway connection between Paris and Bordeaux was *via* Nantes. The transverse line, Rennes-Lyons, was also cut. In the aggregate, railway bridges destroyed in the Loire region numbered 26, of which 24 had been blown up purposely, whilst two had been destroyed by bombing from the air. Of these 26 bridges, 12 were over the Loire, five over the Creuse, two over the Indre, three over the Cher, three over the Canal d'Orléans, and one over the Cher-Loire Canal.

The Paris-Bordeaux line was re-opened for traffic by July, 1940, after the German pioneer troops had erected temporary bridges at Montlouis (over the Cher) and at Port-de-Piles. By the end of August one track had been established in a permanent form over the whole damaged section, and by the end of September regular traffic was resumed over both tracks between Tours and Bordeaux. On the Paris-Toulouse main line, normal train working was restored by the middle of July.

On the Paris-Roanne main line the damaged viaduct near Nevers was restored temporarily so as to allow train working to be resumed over one track by October 6, pending the completion of a metal span 138 ft. long to bridge the gap.

On the Rennes-Lyons line two damaged bridges which made normal train-working impossible were restored temporarily



French National Railways system, showing (shaded) the territories in German occupation

by the end of August, and repaired permanently by October, enabling rail communications between the regions north and south of the Loire to be resumed.

Among instances of the destruction wrought may be cited the masonry bridge of Maisons-Laffitte, which had one gap 197 ft. wide, and the steel bridge at Argenteuil, of which one 99-ft. span was destroyed. The steel bridge of Saumur over the Loire was partly destroyed, the part which had fallen into the river being 245 ft. long, and having a weight of about 400 tons ; by December 12 the span had been replaced. In a general way, the rule followed was to repair or replace masonry bridges with pre-cast concrete beams and to restore their original appearance where possible by special types of coatings.

On the South-Eastern Region of the French National Railways damage was particularly heavy between Villeneuve St. Georges and Montereau, 9·3 miles and 49 miles respectively to the south-east of Paris (Gare de Lyon). Destruction here disorganised both the traffic over the Paris-Dijon line and the Paris-Clermont Ferrand line, the junction of which is situated in the above-mentioned section, where altogether six bridges had been blown up, with the object of checking the advance of the enemy. The bridges of St. Mammès, Moret-les-Sablons (nearby), and Athis were included in this number. The last-named bridge was on the Villeneuve St. Georges-Corbeil Essonnes section. Two of the bridges were restored by French pioneers, two by the French National Railways, and two by German pioneers. Most important of all of them was the steel bridge at St. Mammès (6·2 miles to the north-west of Montereau), of which one span, 131 ft. long, had been destroyed. A temporary span was rebuilt within 40 days from the start, and on October 4 the bridge was tested. In the meantime, rail traffic between Paris and the south-east had to use a roundabout way, using the Gare de l'Est as its Paris terminus and running *via* Troyes and St. Florentin. The Paris-Troyes main line belongs to the Est Region of the French National Railways, and the Troyes-St. Florentin line is a secondary line also belonging to the Est Region. This roundabout way increased the travelling time between Paris and the south-east by at least six hours. South of Dijon there was a further deviation due to damage to the bridge over the Isère at La Roche de Glun, 378 miles from Paris and 5·6 miles north of Valence. Until working was resumed over the repaired bridge (September 16) trains from Lyons used the main line as far south as Chasse-sur-Rhône, 13·7 miles, thence crossing the Rhône to Givors Canal and taking the line on the west bank of the river as far as La Voulte-sur-Rhône, 65·2 miles from Givors, where they crossed the river again to join the Lyons-Marseilles main line at La Voulte.

Other important deviations concerned the line Paris (St. Lazare)-Poissy-Mantes-Rouen-Le Havre. Here the bridges near Bezons, near Maisons-Laffitte (both between Paris and Poissy), and those near Oissel and Eauplet (both between Mantes and Rouen), had been rendered unserviceable. Communication between Paris and Rouen was resumed on July 25 over the relief route from Paris (Gare du Nord) *via* Ermont and Pontoise ; the Argenteuil bridge destroyed between Ermont and Pontoise had been temporarily restored by then. At Pontoise trains left the Northern Region of the French National Railways system, and, using the Western Region line Pontoise-Gisors-Forges-les-Eaux, reached Serqueux on the Northern Region Amiens-Rouen line, which they followed down to the latter station, thence resuming their old route. Using this roundabout way, the normal distance between Paris (St. Lazare) and Le Havre (141½ miles) was increased to 158·3 miles. Working over the normal route was resumed only on November 9.

Improvement Schemes

The French National Railways system is embarking on an extensive improvement scheme to increase carrying capacity and safety. The automatic block system, applied so far to 1,863 miles of double-track lines, is to be extended over an additional 1,118 miles of double-track lines, comprising the Tours-Bordeaux line (217·4 miles), Montauban-Sète-Nîmes line (215·5 miles), Paris-Lyons line (317·9 miles) and certain sections of the St. Denis-Creil, Mantes-Le Havre, and Avignon-Cannes lines where it is still lacking. It will also be introduced on the Paris Grande Ceinture. Other schemes designed to increase track capacity comprise : trebling the section between La Chapelle-en-Serval and Creil on the joint Paris-Calais and Paris-Lille-Brussels line, trebling various sections on the Paris-Orléans line, quadrupling the Lyons (Perrache) to Saint Clair line (5·6 miles) common to the Lyons-Bourg and Lyons-Ambérieu-Culoz-Geneva routes. The Lyons-Saint Clair section forms also a relief line for the Lyons-Paris main line to which it is connected by the link Saint Clair-Les Grands Violets. The line between Niort and Poitiers (48·4 miles) over which the Tours-La Rochelle fast trains have operated in recent years, is to be doubled.

Flying junctions to replace the existing flat junctions are to be constructed between the Paris-Lille and Paris-Brussels lines at Creil, and between the Paris-Le Havre and Paris-Cherbourg lines at Mantes-Gassicourt. The replacement by bridges of 130 road level crossings is already in hand ; 90 road level crossings have been abolished since 1938, but some of the work connected with these conversions is not yet completed. It is also intended to build a certain number of marshalling yards in accordance with the latest mechanised practice.

Wartime Traffic Problems

Reports from Vichy point to the steady restoration of the transport capacity of the French railway system as compared with the situation obtaining after the collapse of 1940. The goods transport capacity is stated to have reached 75 per cent. of the 1939 level by the spring of 1941, when the aggregate of the tonnes-kilometres was 90 per cent. of the 1939 volume. At the same time the average of the daily wagon loadings went up to 75 per cent. of the 1939 average. These results seem rather high, but it has to be borne in mind that all competition from other means of transport has been eliminated, mainly as a result of the shortage of liquid fuel and the virtual stoppage of coastwise shipping. The railways are thus enjoying in effect a transport monopoly. The average use of wagon capacity has increased considerably, due partly to the shortage of rolling stock. The task of the French railways has been intensified considerably since the extension in May last of relations between the unoccupied and occupied zones. Priority of goods traffic over passenger traffic has been adopted in view of the shortage of locomotives and lubricants. Passenger traffic is expected to be reduced still further in the near future, both by reductions in the number of trains, and also by the introduction of passenger transport priority cards. The issue of the latter, so as to ration passenger traffic, was tested during the Whitsun period when passengers were given a " certificate of admission " to a particular train when they bought their travel tickets. After a pre-determined number of tickets plus "certificates" had been issued, no further passengers were admitted to any particular train. The French railway authorities say that they are unable to cope with the additional passenger traffic that generally develops in connection with week-end and holiday periods, and the number of trains during these periods is not to be increased. During the Easter period travelling on the French railways was crowded and very uncomfortable.

Acute shortage of goods rolling stock is being experienced at present on the railways of Vichy-France. This has led to the introduction of restrictions on wagon loading and discharging times. Loading or discharging of a complete wagon load may not exceed two half-days. If the wagon becomes available at 8 a.m., it must be emptied or loaded within the same working day ; if it is available by 2 p.m., it must be ready for removal by midday of the next day. Premiums are paid to secure shorter unloading times and thus make possible a quicker turn-round ; 50 francs are paid if a full wagon is unloaded within one half-day, 75 francs if unloaded between midday and evening, and 100 francs if unloading takes place on a Sunday.

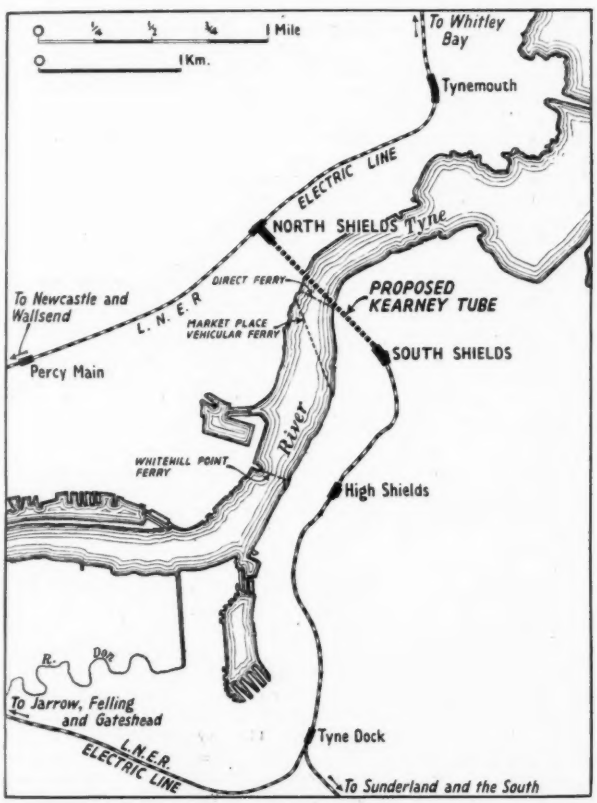
Last April it was stated officially in Vichy that, at the time the Armistice was signed, two-thirds of the rolling stock of the French Railways was in what is now " occupied " territory, and that many railway vehicles were afterwards sent out of the country by the Germans and had not been returned. About the same time a prominent German industrialist, writing in his firm's house organ, said that French goods wagons might be seen at almost every German railway station.

THE NORTH TO SOUTH SHIELDS TUBE PROPOSALS

A brief history of the proposals for crossing the river Tyne near the mouth

FOR more than 140 years proposals have been made periodically for linking the north and south banks of the Tyne near the river mouth by means of a tunnel or bridge connection between North Shields and South Shields, and since the end of the last war the tube railway proposals here have been associated with the name of Mr. E. W. Chalmers Kearney, whose form of tube railway using gravity for acceleration and retardation, and carrying the cars on a single running rail, has been mentioned on a number of occasions in our columns. Recently Mr. Kearney produced a brochure outlining the history of proposals for Tyne crossings in the neighbourhood of North and South Shields, covering the period of 1798 to 1939, and from this brochure we have extracted the following details.

In 1798 an engineer named Dodd drew up a scheme for a circular tunnel 14 ft. in diameter, and stressed the necessity for such a means of communication at that early date when the two harbour boroughs had but a fraction of their present population. The scheme is described in a book published in 1798 by J. Taylor, of the Architectural Library, High Holborn, London, a copy of which is in the library of the Institution of Civil Engineers. The project was abandoned. Plans for a suspension bridge were prepared in 1825, but the cost proved too great. The two corporations appointed a joint committee in 1887 to consider the possibility of a bridge, but again the great cost prevented further progress. In 1900 the Mayor of South Shields put forward another bridge scheme, and once more it was ruled out on the question of cost. Then a syndicate projected a transporter bridge in 1901, similar to the one at Middlesbrough, but Parliament refused to authorise this on the ground that it would obstruct navigation. Since then the tonnage of the largest ships has been quadrupled.

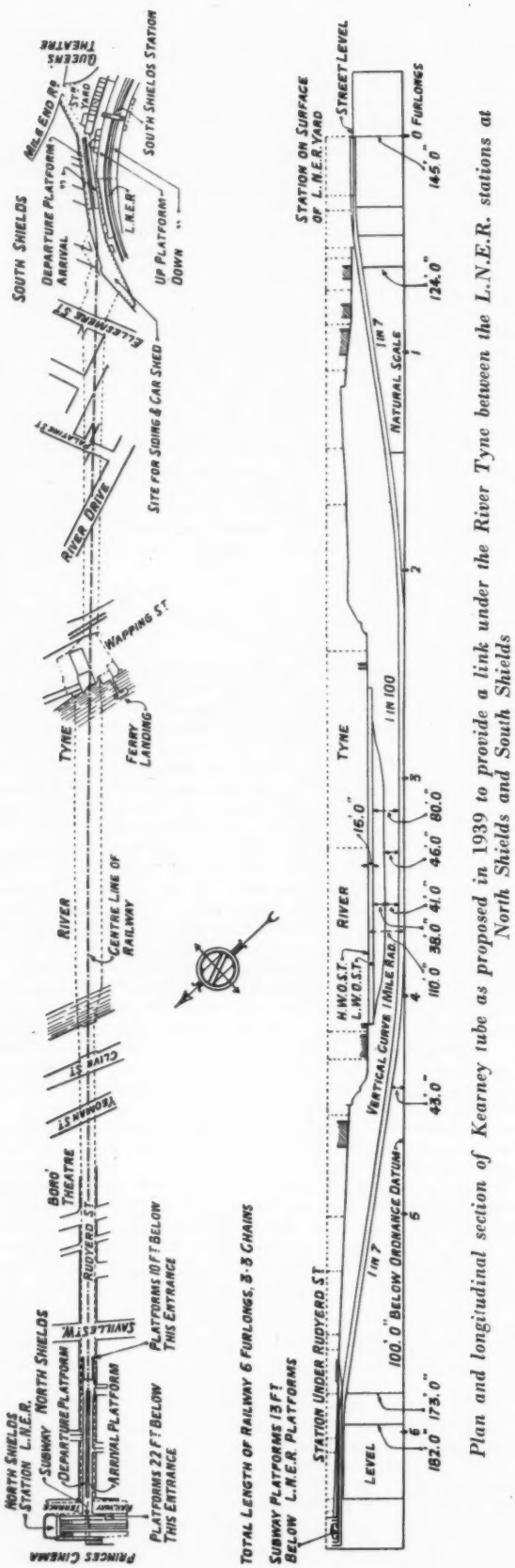


Sketch map showing the site of the proposed Kearney tube in relation to existing Tyneside railways

A passenger tube railway to connect South Shields station with Saville Street, North Shields, was promoted in 1902 by a group including North Shields business men, and was authorised by Parliament in the same year. Lifts would have been necessary to carry the passengers to and from the deep-level stations, and the cost of these prevented the money being raised. Mr. C. H. Gadsby and the late Sir Harley H. Dalrymple-Hay were the engineers. With a view to making another effort to finance this project, a Bill was promoted in 1906 to extend the time for construction. The tube had the support of both Councils and no compensation was demanded by the Tyne Improvement Commission for damage to its ferries. The desired powers were granted by Parliament, but the necessary capital was not found. In 1914 yet another attempt was made to proceed with a passenger tube railway on the lines of the 1902-6 Acts, but the scheme was abandoned at an early stage, several months before the outbreak of the war of 1914-19. Mr. John Portsmouth was the engineer.

In 1921 Mr. Portsmouth endeavoured to revive the 1914 scheme on the original lines, but found post-war construction costs prohibitive. He then examined the possibilities of the Kearney system and decided that it provided a practicable solution of the problem as it would dispense with the costly lifts. Mr. Portsmouth recommended the Kearney tube to the corporations and handed over the scheme to Mr. Kearney. After time had elapsed to allow the councils to consider the advantages of the system, Mr. Sydney Morse, the solicitor then acting for Mr. Kearney, wrote in 1922 to inquire of the two town clerks what was the attitude of the councils to the scheme; both replies were favourable. In his letter dated December 22, 1922, the Town Clerk of Tynemouth wrote: "In reply to your letter of the 20th instant, with regard to the means of communication between North and South Shields, the Tynemouth Corporation are strongly in favour of improved communication between the two harbour boroughs by means of a tube and would be prepared to assist promoters of any scheme with this object in view." In 1923 Mr. Kearney drew up the plans for the first Kearney tube scheme over the shortest possible route, namely, Palatine Street, South Shields, to Howard Street, North Shields, and submitted them to the councils. A joint committee of the two councils then passed a resolution calling for a scheme to give direct railway and road connection across the river, and, as this proved financially impracticable, the matter was dropped. An attempt was then made by another London group to bring about a revival of the 1902-6 scheme for an ordinary tube railway. The corporations evinced considerable interest in this, their own road and rail scheme being abandoned, and sent a deputation to London to meet the promoters. The old difficulty of the lifts on this short journey re-asserted itself, however, and the scheme was abandoned.

Mr. Kearney was invited in 1925 to show a working model of his tube railway at the Newcastle Exhibition in February of that year promoted under the auspices of the *Newcastle Chronicle*. This resulted in a revival of the North and South Shields Kearney tube scheme, and Mr. Kearney was invited to exhibit his model, first in North Shields in March, and then in South Shields in April. Strong public support for the scheme was forthcoming in both places, and an application for a Light Railway Order was made in November of the same year. The Ministry of Transport held a



Plan and longitudinal section of Kearney tube as proposed in 1939 to provide a link under the River Tyne between the L.N.E.R. stations at North Shields and South Shields

public inquiry into this scheme in February and March, 1926. Strong engineering evidence was forthcoming in its favour, including that of Mr. H. Pakenham-Walsh, Fellow of Cooper's Hill, late Chief Engineer of the Indian State Railways.

The scheme was supported by the South Shields Corporation, but, to the surprise of many, Tynemouth opposed. Moreover, for the first time in the history of the North and South Shields railway schemes, the Tyne Improvement Commission, as owner of the ferries, claimed compensation. Nevertheless, strong support to the project was given by leading local persons, and in June the Minister of Transport announced that he would make a Provisional Order. The next two years were occupied by an endeavour to settle clauses in the Order with Tynemouth. In 1928 the Minister of Transport introduced his Confirmation Bill into Parliament; it was given first and second readings unopposed, but in the committee stage was strongly opposed by Tynemouth. The Bill was rejected, but the evidence indicated that the committee considered a direct link should be provided between the stations of the L.N.E.R. in North and South Shields respectively. To conform with this view, Mr. Kearney prepared a scheme in 1929 to connect the stations of the L.N.E.R., and the two Corporations formulated a plan for a road tunnel. The road proposal was rejected by the Minister of Transport in 1931.

During 1932 Mr. Kearney secured the general consent of the L.N.E.R. to the linking of the South Shields and North Shields railway stations, and negotiations with the L.N.E.R. were concluded in October, 1933. In the meantime the two corporations again brought forward their road tunnel scheme, but this was again rejected by the Minister of Transport. An offer was made by Mr. Kearney in 1935 for a combined road tunnel and passenger tube scheme if the Corporations would contribute, but the offer was rejected. In 1936 the two corporations again submitted their road tunnel scheme to the Minister of Transport who once more vetoed it, and in 1937 they renewed their demands but were again refused by the Minister of Transport. A London firm then offered to finance and construct the Kearney tube, and this offer was rejected by the Corporations. Further efforts were made by the corporations during 1938 to interest the Minister of Transport in their road tunnel scheme, and once more it was rejected.

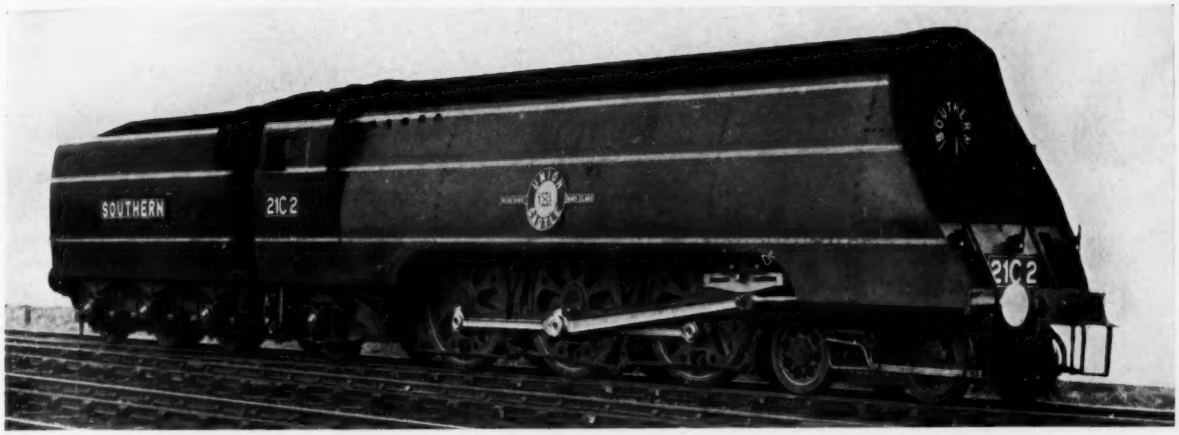
Once again preparations were made to begin the promotion of the tube as a light railway. The corporations made a further effort to secure the support of the Minister of Transport to their plans for a road tunnel, and the reply of the Minister, published in the *Shields Gazette* and the *Shields Evening News* on March 14, 1939, was as follows:—

"I am directed by the Minister of Transport to refer to your letter of January 28, in which you ask that the Minister should refrain from committing himself to the Jarrow scheme for crossing the Tyne until the details of the scheme have been received and considered by him, and that he will then give further consideration to the report of the engineers on the proposed scheme for a tunnel between South Shields and Tynemouth.

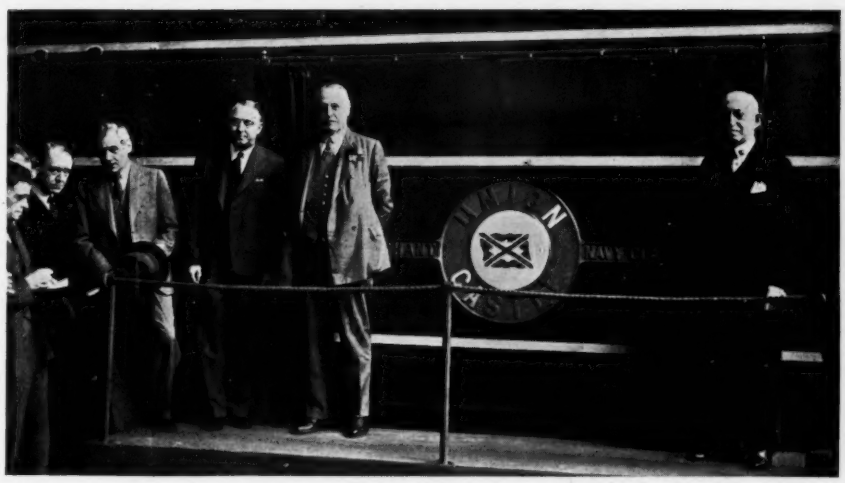
"In reply I have to inform you that the Minister, while keeping an open mind about the suitability of the site at Jarrow, is definitely of opinion that a site at the harbour mouth is unsuitable and he cannot hold out any hope that a grant will be given from the Road Fund for the construction of a tunnel at that place."

The increasing tension of the international situation during the early months of 1939, and the outbreak of war in September, resulted in the suspension of further activity with the tube scheme, but it is probable that the plans will be revived after the war. From the above brief historical survey it will be seen that the only scheme to be authorised by Parliament for a link between North and South Shields was the passenger tube railway which received Parliamentary approval in 1902 and in 1906. It may be added that the Kearney plans envisaged a service every three minutes in each direction and a single journey time of only one minute. The fare was publicly announced as 2d., and it was stated that the tube would carry parcels, bicycles, motorcycles, perambulators, and so forth, as well as passengers. The accompanying drawings give a route plan and longitudinal section of the tube as proposed in the 1939 scheme.

S.R. LOCOMOTIVE NAMED "UNION CASTLE"

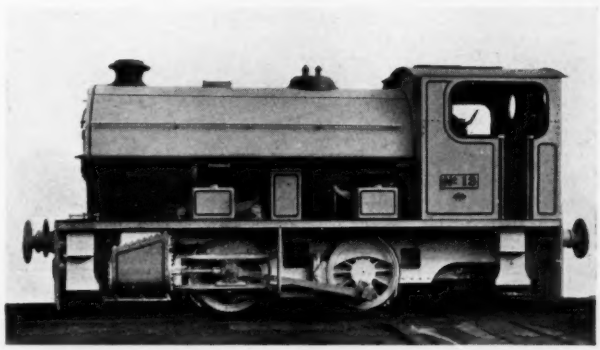


On July 4, as reported in "The Railway Gazette" of July 11, Mr. Robertson Gibb, Director of the Union Castle Mail Steamship Co. Ltd., named the second of the Southern Railway "Merchant Navy" class mixed traffic locomotives "Union Castle." Above: The locomotive bearing the name and coat of arms of the shipping company. Right: A group at the naming ceremony



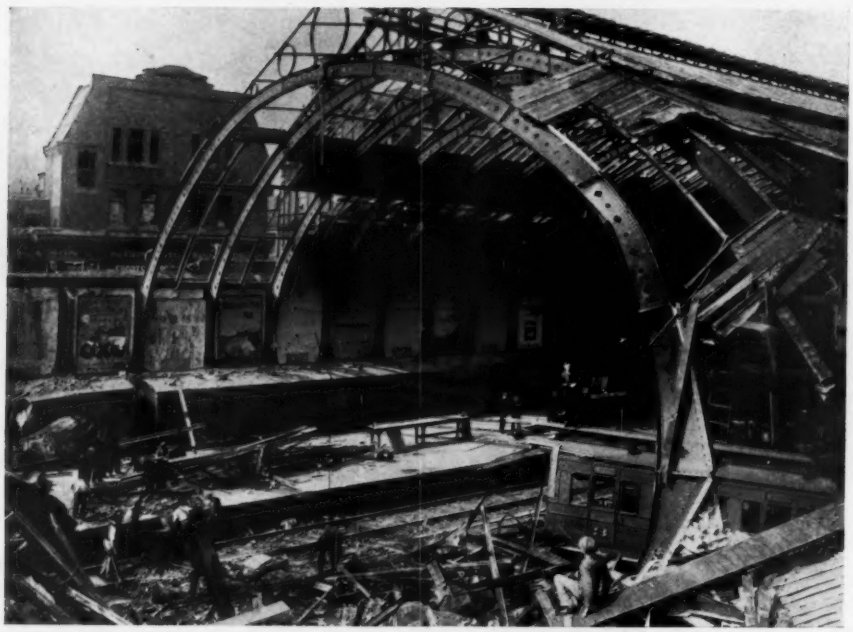
In the group are (left to right): Mr. R. H. Hill, Deputy Director-General (Inland Transport) Ministry of War Transport; Sir Cyril Hurcomb, Director-General & Accounting Officer, Ministry of War Transport; Mr. E. J. Missenden, General Manager, Southern Railway; Mr. R. Holland-Martin, Chairman, Southern Railway Company; and Mr. Robertson F. Gibb, Director, Union Castle Mail Steamship Co. Ltd.

A BAGNALL INDUSTRIAL LOCOMOTIVE

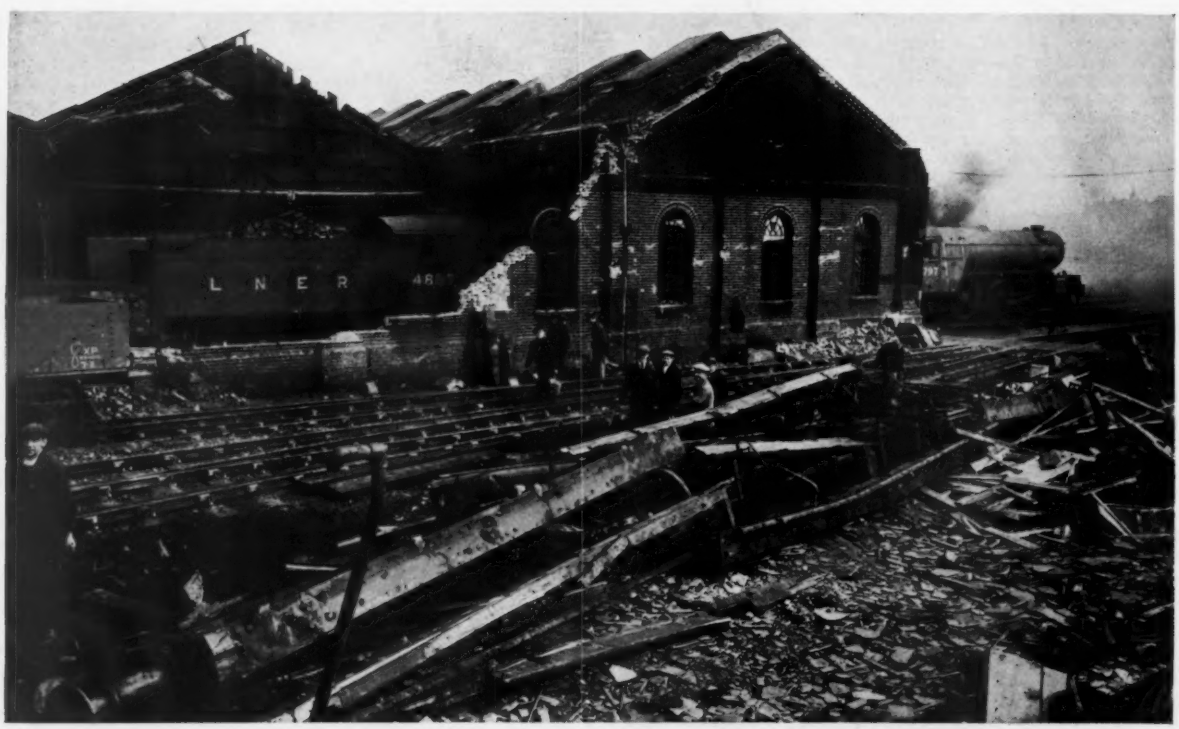


A 0-4-0 saddle tank locomotive built by W. G. Bagnall Limited, of Stafford, for the Guest Keen Baldwins Iron & Steel Co. Ltd. is illustrated herewith. It has outside cylinders 17 in. by 24 in. and 3 ft. 9 in. diameter wheels. The wheelbase is 6 ft. 6 in. and weight in working order 43 tons 15 cwt. The total heating surface is 933 sq. ft., of which 855 sq. ft. are provided by the tubes and 78 sq. ft. by the firebox; the grate area is 15 sq. ft. The boiler carries a working pressure of 160 lb. per sq. in. and is fed by two 8 mm. injectors. The water capacity of the tank is 1,000 gallons and a bunker capacity of 45 cu. ft. is provided. At 85 per cent. of the steam pressure the tractive effort is 20,962 lb. The engine is built for the 4 ft. 8½ in. gauge. Fittings include Ross pop safety valves, a Dunbar & Slater mechanical lubricator, and sanding gear for running in both directions. Three of these engines were comprised in the order.

British Railways and the War—77



An L.N.E.R. station hit during an air raid last September. Comparatively little interruption to the train service was caused, but the picture gives an idea of the work of clearance that confronted L.N.E.R. engineers



A well-known main-line locomotive shed on the L.N.E.R. which was hit during an air raid last September

RAILWAY NEWS SECTION

PERSONAL

The Minister of Aircraft Production announces that Vickers-Armstrongs Limited has agreed to release Mr. Alexander Dunbar to take up the appointment of Director-General of Materials Production. Mr. Dunbar has been connected with Vickers for many years and has been Director in charge of the group's aviation companies. He is a Director of the English Steel Co. Ltd. and of Vickers-Armstrongs Limited.

Imperial Service Medals have been awarded to Mr. Arthur Henry Grimble, Chief Inspector, Tramway Service, New South Wales; and to Mr. Kwaw Baidoo, Leading Artisan, Gold Coast Government Railway.

Captain G. H. Halliday of the Way & Accountant's Division in the head office of the Victorian Government Railways, has been awarded the M.C. for gallant and distinguished service with the A.I.F. in the North African campaign.

Mr. W. J. Ellis, Canadian National Railways, was elected President of the Young Railwaymen's Club of Montreal at the annual meeting of the club's executive on May 27. He succeeds Mr. H. S. Moreau of the Canadian Pacific Railway.

Indian Railway Staff Changes

Mr. P. M. Joseph has been appointed to officiate as Deputy Chief Accounts Officer, N.W.R., as from April 19.

Mr. A. Gumbrill, Publicity Officer, E.I.R., has been transferred to the G.I.P.R. in a similar capacity, as from February 13.

Mr. W. H. Telfer, Assistant Divisional Controller, Freight Services, Derby, L.M.S.R., has been appointed Operating Assistant to Manager, Cheshire Lines Committee, in succession to Mr. W. Shuttleworth, whose death through enemy action we recorded in our May 16 issue. Mr. Telfer took up his new duties on July 21.

Mr. H. Baines, Deputy Chief Controller, East Leake, L.N.E.R., has been appointed Stationmaster at Basford & Bulwell.

Mr. C. G. Harris, Stationmaster, Marks Tey, L.N.E.R., has been appointed Stationmaster at Witham in place of Mr. G. A. Hancock, who retired on May 21.

Mr. Hervey Adams Clarke, M.Inst.T., Staff Assistant to the General Manager, Great Western Railway, who, as recorded in our July 4 issue, has been appointed Chief Staff & Establishment Officer, was born in Dublin in 1890, and began his service on the G.W.R. in the Audit Office at Paddington in August, 1907. In 1909 he was transferred to the Chief Engineer's office, and was employed there for five years, until, in 1914, he was posted to the Divisional Traffic Superintendent's office at Paddington. In 1917 he was promoted to the staff section of the General Manager's office, of which section he became head in 1921. In July, 1936, Mr. Adams Clarke was appointed Staff Assistant to the General Manager. He was secretary to the company's side of the Sectional Councils and Railway Council set up under the provisions of the Railways Act, 1921, and acted in that capacity until 1929, since when he has been the General Manager's representative on the Sectional Councils. He is a member of the Staff Committee of the Railway Executive Committee; the Railways Staff Conference Committee, the Railway Staff National Council; and other negotiating bodies dealing with the railway staff; also a member of the Council and Executive Committee of the British Association for Commercial & Industrial Education. He is a Serving Brother of the Order of St. John of Jerusalem and Chairman of the G.W.R. Central Ambulance Committee and of the Divisional Ambulance Secretaries' Conference.

Mr. H. Adams Clarke
Appointed Chief Staff & Establishment Officer, G.W.R.

Karl Friedrich von Siemens, the well-known German industrialist, died in Berlin on July 10 at the age of 68. He was born in 1872 and was the son of Werner von Siemens, a founder of the world-famous electrical undertaking of Siemens & Halske. Karl von Siemens joined the firm in 1899 and in the next year came to London where he was in charge of the high-tension department of the British branch. He returned to Germany in 1908 to become head of the export section of the business and in 1912 was elected Chairman of the board of directors of the Siemens Schuckertwerke A.G., one of the largest electric manufacturing undertakings in the world. At the beginning of the last war he served on the western front, but was recalled by the German Government to take charge of the reorganisation of industrial works for war production. After the death of his brother, Wilhelm, in 1919, Karl was appointed Managing Director of both Siemens & Halske A.G., and of Siemens Schuckertwerke A.G. He became closely associated with Hugo Stinnes when Siemens Schuckertwerke was included in the Rhein-Siemens Schuckert-Elbe Union, and in 1920, von Siemens was elected to the Reichstag as head of the Democratic Party. He represented Germany at the International Conference at Geneva in May, 1927. Von Siemens took a keen interest in housing plans and is credited with personally laying out the Siemensstadt, a suburb of Berlin where office staff and workmen of the Siemens' works live. It was here that Hitler delivered his broadcast address in 1933 to the workers of Germany, and Siemensstadt more recently has been mentioned on a number of occasions in Air Ministry bulletins as one of the Berlin targets of the R.A.F.

Mr. F. C. Hall, Locomotive Running Superintendent & Outdoor Assistant to the Chief Mechanical Engineer, Great Western Railway, who, as recorded in our July 4 issue, has been appointed Principal Assistant to the Chief Mechanical Engineer, entered the com-

pany's service in July, 1900, as an apprentice in the locomotive works. In November, 1907, he was transferred to the drawing office. While serving as a draughtsman and still attached to the drawing office, he was engaged on outdoor work in connection with locomotive tests, thus obtaining practical experience on the footplate. In July, 1919, he was appointed Assistant Divisional Locomotive Superintendent in London, and in November, 1922, became Divisional Locomotive Superintendent at Neath. He was appointed Assistant to the Locomotive Running Superintendent and Outdoor Assistant to Chief Mechanical Engineer in 1924, and in October, 1929, was transferred to the Bristol Division as Divisional Locomotive Superintendent. In September, 1931, Mr. Hall became Locomotive Running Superintendent & Outdoor Assistant to the Chief Mechanical Engineer. In December, 1933, he visited Iran at the invitation of the Iranian Government to advise upon railway matters. After his visit an order was placed in this country for the construction of a number of 2-8-0 tender engines and some Beyer-Garratt type locomotives. By arrangement with the Great Western Railway the specifications of these locomotives were prepared under the direction of Mr. Hall and he also supervised their construction. Mr. Hall was awarded a Whitworth Exhibition in 1910. He is a member of the Institution of Mechanical Engineers.

Mr. F. C. Hall
Appointed Principal Assistant to the Chief Mechanical Engineer, G.W.R.

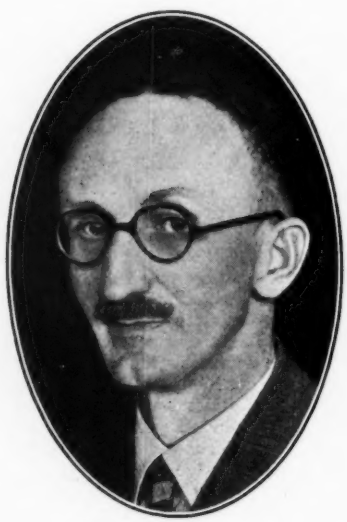
Mr. William N. Pellow, M.I.Mech.E., Divisional Locomotive Superintendent, Old Oak Common, Great Western Railway, who, as recorded in our July 4 issue, has been appointed Locomotive Running Superintendent & Outdoor Assistant to the Chief Mechanical Engineer, entered the service of the company as an apprentice to engine fitting and turning, at the St. Blazey locomotive depot, Cornwall, in February, 1904. In June, 1908, he was transferred to Swindon locomotive works to complete his apprenticeship. After experience in various shops and in the materials testing house, Mr. Pellow entered the drawing office in February, 1912. In August, 1922, he went to the Newport Division as Divisional Inspector, and was made Assistant to the Locomotive Superintendent in December, 1923. Mr. Pellow was appointed Assistant Superintendent, Locomotive, Carriage & Wagon Department, Wolverhampton, in July, 1924, and in October, 1929, was transferred to Swindon as Assistant to the Locomotive Running Superintendent and Outdoor Assistant to Chief Mechanical Engineer. In September, 1931, Mr. Pellow was appointed Divisional Locomotive, Carriage & Wagon Superintendent at Bristol. During his period of office there the very extensive alterations at Bristol were carried out, involving the station, locomotive sheds, traffic yards, carriage sidings, etc. He was appointed Divisional Locomotive Superintendent, Old Oak Common, in July, 1939.

Mr. R. W. Woolacott, who, as recorded in our July 4 issue, has been appointed Assistant to the Chief Mechanical Engineer, Great Western Railway, began his career with the Taff Vale Railway in April, 1907, as an apprentice in the West Yard locomotive works, at Cardiff. He entered the Drawing Office at Cardiff in November, 1910; and was placed in charge of Outdoor Work of the Locomotive Department, later becoming Inspector of purchased material. In August, 1918, he returned to the Drawing Office as Acting Chief Draughtsman, and in May, 1920, became Chief Draughtsman. Mr. Woolacott was appointed Assistant to the Chief Draughtsman, Great Western Railway, at Swindon, in November, 1923, the Taff Vale Railway having been amalgamated with the G.W.R. at grouping.

We regret to record the death on May 9 of Mr. Harry Howard Thornton, formerly Acting General Manager of the Central Cordoba Railway. Mr. Thornton was born in 1875 and was educated at Queenwood College, Hampshire. He began his railway career with the Argentine Great Western Railway in 1892, and gained experience in the various departments before transferring to the administrative side. He became Chief Assistant to the General Manager. After the affiliation of

Photo] [Wakefields

Mr. W. N. Pellow
Appointed Locomotive Running Superintendent and Outdoor Assistant to the Chief Mechanical Engineer, G.W.R.



Mr. R. W. Woolacott
Appointed Assistant to the Chief Mechanical Engineer, G.W.R.

The late Mr. H. H. Thornton
Acting General Manager, Cordoba Central Railway, 1936-1939

the Argentine Great Western with the Buenos Ayres & Pacific Railway in 1907, Mr. Thornton joined the Cordoba Central Railway and in 1926 was appointed Assistant General Manager. When Mr. Donald MacRae relinquished the general managership of the company in July, 1936, to become General Manager of the Central Argentine Railway, Mr. Thornton became Acting General Manager and held this position until the Argentine Government purchased the Cordoba Central Railway in 1939, after which date he continued to act as Representative. For some years he was Secretary and a Director of the Rafaela Steam Tramway Company.

Mr. Joe Lees who recently retired from the service of the L.N.E.R., began his railway career as a clerk in the Superintendent's Office of the Manchester, Sheffield & Lincolnshire Railway in February, 1891. In October, 1903, he was appointed Chief Clerk in this office and held this position until January, 1912, when he was made Assistant Goods Manager & District Superintendent, Grimsby Docks. In July, 1919, he became District Traffic Manager at Immingham. On amalgamation in January, 1923, he was made Assistant Superintendent, G.C. Section, London & North Eastern Railway, and in September, 1927, was appointed Chief Assistant Superintendent, Western Section, Southern Area, from which position he has now retired.

SPANISH RAILWAY APPOINTMENTS

The following have been appointed by the Spanish Government to be Presidents of the directing councils of the five federations of narrow-gauge railways formed under the Nationalisation Law of January 24, 1941 :—

Northern Zone, Señor José Huidobro.

Catalonian Zone, Señor Narciso Amigó.

Central-Levant Zone (Valencia), Señor José M. Torroja.

Andalusian Zone, Señor Félix Gonsalez.

Balearic Islands Zone, Señor Miguel Forteza

Major Rafael Rubio, R.E., has been appointed President of the newly-formed Railway Rolling Stock Commission.

Mr. D. C. King, Acting General Manager, Virginian Railroad, has been appointed General Manager.

JAPANESE RAILWAY STAFF CHANGES

Mr. Kiyohide Suzuki, Director of the Private Railways Administration Bureau of the Railways Ministry, has been appointed Vice-Minister of Railways.

Mr. Takamoto Kimura has been appointed Director of the Board of Tourist Industries.

Mr. Koro Kataoka, who formerly held the latter post, has been appointed Superintendent of Railways.

Questions in Parliament

Petrol Ration

Mr. Geoffrey Lloyd (Secretary for Petroleum) stated the policy of the Government as to the petrol ration in reply to a question by Captain E. Thurtle (Shoreditch—Lab.) on July 1. He said that of the two forms in which petrol was supplied to motor cars, namely, the basic ration and the supplementary ration, the latter had already been substantially reduced. The Government had now decided to reduce the basic ration also, by the equivalent approximately of one-sixth and that would become operative in the next ration period.

In reply to a further question by Captain Thurtle Mr. Lloyd said he proposed to take strong measures against the misuse of the supplementary ration. He was doubling the inspectorate of his department, and was arranging to have the services of a superintendent of the Metropolitan Police as chief inspector, and he would establish close co-operation between Scotland Yard, the Petroleum Department, and chief constables throughout the country. Further, the latest issue of supplementary ration permits had been accompanied by notices warning those who received them that they must keep a log of their journeys, and he proposed shortly to issue an order making the keeping of a log compulsory upon motorists who received supplementary rations.

Asked by Sir Hugh O'Neill (Antrim—C.) what had been the percentage reduction in the supplementary ration, Mr. Lloyd replied that it was between 10 and 20 per cent.

Railway Train Refreshments

Mr. A. Denville (Newcastle-upon-Tyne Central—C.), on July 8, asked the Parliamentary Secretary to the Ministry of War Transport if he would consider giving instructions that soldiers travelling by train should not be compelled to pay a service charge for their food, and would he cut out service charges for uniformed forces.

Colonel Llewellin : Special arrangements have been made for the supply of food to soldiers travelling by rail, most of whom carry rations for the journey when travelling on duty or going on leave.

Mr. Denville asked the Parliamentary Secretary if he would put a stop to compulsory tipping by soldiers.

Colonel Llewellin replied that this service charge was operating on two of the railway companies by agreement with the staffs of their restaurant cars. People had a charge of 2d. on bills up to 1s., 3d. for bills between 1s. 1d. and 2s. 6d., and so on, and there was no necessity whatever for a tip in addition to the service charge.

Transport in Staffordshire

Mr. Ellis Smith (Stoke—Lab.), on July 10, asked the Parliamentary Secretary to the Ministry of War Transport whether he had considered a resolution from the Newcastle, Staffordshire, Trades Council asking for the setting up of a transport regional advisory committee and expressing concern over transport in the area.

Colonel J. J. Llewellin : Each Regional Transport Commissioner has already a regional transport advisory committee, which includes a representative of the trades unions. I am considering whether there is scope for a local consultative committee in the area in question.

Mr. J. J. Davidson (Glasgow, Maryhill—Lab.) : Can the Parliamentary Secretary say what trade union is represented ?

Colonel J. J. Llewellin : They are appointed, I believe, in consultation with the Trades Union Congress.

Merseyside Docks Scheme

Mr. A. Edwards (Middlesbrough East—Lab.), on July 10, asked the Chancellor of the Exchequer whether he was aware that the addition of 25 per cent. to the wages paid by the Regional Port Director under the Merseyside Docks Scheme had the effect of artificially increasing prices of imported goods and was in conflict with the principle laid down in the Budget ; and whether he was now prepared to meet any cost involved in this scheme by way of a subsidy to avoid inflation.

Sir Kingsley Wood in a written reply stated that the addition to which Mr. Edwards referred was not an increase of wages, but a charge payable by employers in respect of the cost of administration of the dock labour scheme, which was introduced before the Budget with a view to increasing efficiency. He could not accept the suggestion that the scheme had led to an increase in the cost of imported goods.

Hospital Workers Travel Facilities

Mr. F. Messer (Tottenham South—Lab.), on July 10, asked the Parliamentary Secretary to the Ministry of War Transport if he was aware that mechanics and artisans working on shift duties were able to obtain workmen's tickets after the normal time for the issue of such tickets but that hospital workers were unable to obtain this privilege ; and could he take steps to secure them this advantage.

Colonel J. J. Llewellin stated that to require workmen's tickets to be issued outside the normal hours to persons other than artisans, mechanics, and labourers would make these tickets available to large numbers of persons for whom they were never intended and it would then be difficult to justify the continuance of the low fares which now applied.

Parliamentary Notes

L.M.S.R. Bill

The Lords Amendments to the London Midland & Scottish Railway Bill were considered by the House of Commons on July 8 and agreed to.

TRANSPORT SERVICES AND THE WAR—99

A year's air raid casualties—Gifts from Argentine railwaymen—U.S.A. ambulances—Effect of the war on U.S.A. and Canadian railways—Transport changes in Germany and the Balkans

With the announcement of the air raid casualties for June it is possible to tabulate statistics for civilian deaths and injuries resulting from enemy air attack during the past year. Intensive enemy air attacks on this country began on June 18. The June, 1941, figures were: Killed, 399, injured and detained in hospital 461, and seven missing, believed killed. The figures of casualties since June, 1940, have been as follow:—

	Killed	Injured	Total	See R.G. of:—
June	78	155	233	October 25
July	258	321	579	October 25
August	1,075	1,261	2,336	October 25
September	6,954	10,615	17,569	October 25
October	6,334	8,695	15,029	November 22
November	4,588	6,202	10,790	December 27
December	3,793	5,044	8,837	January 24
January	1,502	2,012	3,514	February 21
February	789	1,068	1,857	March 14
March	4,259	4,794	9,053	April 11
April	6,065	6,926	12,991	May 23
May	5,394	5,181	10,575	June 27
June	399	461	860	July 25
	41,488	52,735	94,223	

Ministry of War Transport

The salaries of the Minister of War Transport and his two Joint Parliamentary Secretaries have been fixed at £5,000 and £1,500 a year each, respectively, according to a Supplementary Estimate issued on July 15.

Argentine Railway Staffs' Gifts to Britain

On July 11 three self-propelled mobile snack bars and fifteen mobile trailer kitchens, which have been presented to the people of this country by the non-British staffs in Argentina of the Buenos Ayres Great Southern, Western, and Midland Railway Companies, were handed over to Mr. Herbert Morrison, Home Secretary & Minister of Home Security, by Mr. J. M. Eddy, C.B.E., Chairman of the railway companies, in the presence of the Argentine Ambassador, Senor T. A. Le Breton. Sir Follett Holt, formerly Chairman of the first two railway companies was also present at the ceremony. Mr. Morrison has decided that the canteens shall be allocated to various Civil Defence Services. One canteen is to be used in the City of London, one canteen and one kitchen in Liverpool, one canteen each to Swansea, Stockton, and Darlington, and some of the remaining vehicles will go to towns in Scotland and Wales. Distribution of the canteens and kitchens will be made largely to places with important railway centres. The vehicles generally have been allocated, in recognition of their origin, to centres where they may be expected to be of especial value to railwaymen and their families. Each canteen bears the following inscription:—"Presented by the Non-British Staffs in the Argentine of the Buenos Ayres Great Southern, Western, and Midland Railways to the people of....."

The canteens are equipped with insulated urns by which the contents may be kept at serving temperature for from six to seven hours. Boiler urns with two Canadian pressure paraffin stoves are also provided, so that further supplies of tea, hot soup, and so forth, may be made. A feature of the canteens is that they are fitted with special towing bars, so that they can take with them their own base kitchens to any area and operate some distance from the kitchen, which can be left to carry on its own service while the canteen goes further afield. Sufficient space is provided for four persons to work in comfort inside the kitchen. Each kitchen is provided with four paraffin pressure stoves, a steam pressure cooker, ipsulated fitted storage containers, and boiler urns, together with plates, mugs, and cutlery for serving large numbers of meals. By using the steam pressure cookers it is possible to supply 70 hot emergency meals every 50 minutes, as well as boiling water for tea for 200 persons, and by using the insulated storage containers 300 meals in three hours can be got ready for serving. In a recent attack on Merseyside one of these kitchens served 3,000 meals in five days.

The canteens and kitchens are but a part of the gifts which have been subscribed to by Argentine railway staffs. Our Buenos Aires correspondent writes that ever since the outbreak of the war, the Argentine people have given practical proof of their sympathy with Great Britain, in the shape of munificent gifts of both money and foodstuffs, in addition to organising fêtes and entertainments for the purpose of raising funds for the Red Cross and the providing of aeroplanes and other equipment. The Argentine staffs of the B.A.G.S., B.A.W. and B.A. Midland Railways, besides voluntarily raising funds for the purchase of two ambulances and 25 mobile kitchens (as reported in THE RAILWAY GAZETTE of January 31 and March 28, 1941), also organised two very successful variety entertainments in aid of the British Red Cross. The second of these was attended by some 3,000 people, the audience including Sir Esmond Ovey, the British Ambassador, Lady Ovey, and the diplomatic representatives of all the Allied countries. Major Oscar Loewenthal, the General Manager of the railways named, made a short speech in which he paid a warm tribute to the spontaneous generosity and initiative of the railway staff in organising these collections on behalf of the British Red Cross, which had benefitted to the extent of some $250,000 (approximately £14,700).

American Ambulances for Britain

In THE RAILWAY GAZETTE of June 13 we referred to the subscription by the employees of the Baltimore & Ohio and Alton Railroads of $67,000 for the purchase of a flying ambulance for the R.A.F., and on June 20 we reproduced an illustration of the presentation. Colonel C. M. Turner, General Traffic Manager, Associated British & Irish Railways, in a broadcast in America on June 18, referred to this subscription, and said that the flying ambulance would shortly be on its way to England. The inscription on the flying ambulance reads "British American Ambulance Corps. Gift of the Baltimore & Ohio and Alton Railroad employees, U.S.A., through the railwaymen of Great Britain to the R.A.F." Colonel Turner also said that the British American Ambulance Corps had given him the opportunity in February last of speaking over the radio to his colleagues on the British and Irish railways. The reason had been that owing to the extensive activities of this corps large subscriptions had been obtained from one of the American railways which had expressed the wish that the contribution should be devoted to provide road motor ambulances for British railwaymen.

We are informed by the L.M.S.R. that railway employees in the United States have presented that company with three motor ambulances for use during the present emergency. These ambulances have arrived in this country and when we closed for press arrangements had been made for the vehicles to be handed over to the British American Ambulance Corps at Euston station on Thursday, July 24, by Sir Thomas Royden, Chairman of the L.M.S.R.

C.P.R.-C.N.R. Shares of Canadian Government Traffic

Mr. A. S. Fraser, Vice-President for Traffic of the Canadian National Railways, told the Dominion House of Commons on May 21 that the C.N.R. receives about 50 per cent. of the total Dominion Government railway freight and passenger business. He felt personally that the Government-owned C.N.R. should be used more extensively by the Government, particularly in wartime. Mr. Fraser said that the Prairie provinces had their mileage divided equally between the C.N.R. and the C.P.R., but in British Columbia the C.N.R. had 51 per cent. of track, and in the Maritimes 74 per cent. In Quebec and Ontario the Government line owned 64 per cent. of the track mileage. On May 31 steps to ensure that the Canadian National Railways system received a greater share of the Government-controlled business were recommended in a report to the Canadian House of Commons Standing Committee on Railways. Figures showed greater track mileage and number of employees of the Canadian

National in comparison with the Canadian Pacific Railway. Committee members had advocated that the Canadian National Railways should be granted from 58 to 65 per cent. of all Dominion Government railway freight and passenger business.

Leave Fare Concession in Canada

Mr. J. L. Ilsley, Minister of Finance, announced in the Canadian House of Commons on May 15 that he would amend the Special War Revenue Act to exempt all members of the armed Forces in uniform, when proceeding on leave, from the 10 per cent. tax on transport tickets. He added that the concession would be effected as soon as the transport companies could be notified. A further concession was announced on June 11. Hitherto uniformed men had received a return ticket for the price of a single fare. The charge to the general public for a return ticket was twice the price of a single fare less 10 per cent. The railways agreed to absorb one third of that rate and the Government undertook to contribute the other third. Thus the cost of the reduction was divided equally between the Government and the railways.

C.N.R. Borrows U.S.A. Locomotives

In the Canadian House of Commons, Mr. Cardin, the Minister of Transport, recently announced that the Government was borrowing 25 locomotives from the United States, until a similar number of new engines could be built in the U.S.A. to release them. For, though the C.N.R. locomotive stock was adequate to haul the enhanced war traffic over the Canadian lines, it was insufficient for the lines worked by that administration in the States.

Replying to a criticism that Canada was buying safety equipment for the Maritime Provinces in the States, he pointed out that these could be purchased only in the U.S.A. He further added that the C.N.R. was more closely watched than any private enterprise, and that the public had more opportunity for obtaining information about that system than about any private corporation.

U.S.A. Troop Movements in April

More than 235,000 U.S.A. troops, selectees, and members of the Civilian Conservation Corps were moved by rail in April, according to the Military Transportation Section of the Association of American Railroads. Of this total 132,351 were soldiers, sailors, marines, and Civilian Conservation Corps men, nearly 120,000 of whom were carried in 425 special trains. The Army alone required 364 special trains to transport more than 100,000 officers and men. A total of 103,035 selectees was handled in regular train service from induction stations to reception centres. During April the U.S.A. railways carried 9,085 marines—the largest movement of marines by rail in any month since the national defence programme began. The reason for this was the return of the men from winter manœuvres at Guantanamo Bay, Cuba. All of these movements were handled smoothly and with no interference to any other kind of rail traffic.

Activity in Alaska

World unrest is focussing attention on many areas of possible conflict, in addition to those in which war is already raging. In North America, for example, the United States territory of Alaska, making the nearest of all American contacts with the continent of Asia, is the scene of considerable activity. The U.S. Government has recently sanctioned a proposal of considerable importance affecting the Alaska Railroad, the port of which has hitherto been Seward, on the southern side of the Kenai peninsula. This is to cut across the neck of the peninsula to a point near the head of what is called the Passage Canal, by a line 14 miles in length, and to establish a new port, with direct access to King William Sound. Two tunnels, one 2¼ miles and the other ¾ mile long, will be needed, and the cost of the project is estimated at $5,300,000. When completed, however, the new line will make possible the abandonment of 66 miles of the existing track, which hitherto has been the most difficult portion of the Alaska Railroad to maintain, and is expected to shorten the journey between Seattle and Anchorage—the administrative centre of the railway—and Fairbanks, the northern terminus, by 22 hr. The American Army and Air Force authorities are both interested in the carrying out of this work, in view of the extensive developments that are taking place at both towns in connection with the national defence programme.

Peru-Ecuador Dispute

On July 6 frontier fighting and bombing raids occurred between Peru and Ecuador as a result of a flare-up of the frontier dispute which is of some years standing. An official Peruvian announcement issued on July 7 stated that Ecuadorian troops in the province of Deloro had attacked frontier posts at Aguas Verdes, La Palma, and Lechugal and had been repulsed by Peruvian forces. It was officially announced on the same day in Quito, Ecuador, that Peruvian aircraft had raided three towns and that Peruvian guards had penetrated Ecuadorian territory between Huaquillas and Chacras. Latest reports indicate that the actual fighting lasted but two days and that negotiations for peace were then undertaken with the mediation of the United States, Brazil, and Argentina.

Norwegian Transport Restrictions

Terboven, the German Commissioner in Norway, on June 27 proclaimed the whole of Bergen and certain districts in the neighbourhood a forbidden zone for which special entry and exit permits are required, according to a Stockholm message. There is also a curfew from 9 p.m. until 5 a.m. for all except policemen, firemen, A.R.P. officials, and others like doctors with special tasks.

Light Railways in Holland

The Netherlands Railways recently took over the working of two interurban light railways, the Westland Steam Tramway Company and the North-South Holland Tramway Company, thus reversing the policy pursued for many years of transferring to local enterprise the operation of lines of purely local importance. The first is a standard-gauge steam-operated light railway, used chiefly for market garden produce from Delft (on the Amsterdam—Rotterdam main line) to the Hook-of-Holland. The second is a standard-gauge system of electric passenger lines parallel to the main line between Amsterdam and The Hague, with branches to the seaside resorts of Zandvoort, Noordwyk, Katwyk, and Scheveningen, and the Volendam district on the Zuider Zee coast, north of Amsterdam.

Railway Traffic between France and Spain

The most recent instructions regarding goods traffic between France and Spain appear to be those issued by the Secrétariat d'Etat aux Communications de France, Direction Générale des Transports, on May 19 last. These require all consignments to use the frontier stations of Cerbére and Port Bou (on the Mediterranean route), or Canfranc. Consignments *via* Hendaye—Irun (Atlantic route) are also accepted if they originate in Italy, or if a special authorisation to use that transit route is given by the German authorities. It is stated that all ordinary goods traffic between France and Spain *via* Puigcerda and La Tour de Carol (Pyrenees route) is suspended. These arrangements differ in various important respects from those dated February 1 last (see our issue of June 27, page 712) which said that goods traffic had been organised along the three routes, namely, Atlantic, Pyrenees, and Mediterranean, but that transit traffic *via* Canfranc had been suspended from December 17, 1940.

German Control of Italian Railways

In a comparative list of international production figures published by the German weekly paper, *Das Reich*, Italy has now been placed under the heading of "occupied territories." An indication that the Italian State Railways are now effectively under German control was given on July 10 in the course of an interview by one of the U.S.A. Consuls expelled from Italy under the recent retaliatory order whereby U.S.A. Consular Officials were required to leave Italy. This Consul is stated to have said that there is now a Reichsbahn official in charge of every important station throughout the country. He added that the members of the British party of para-

chutists landed last February succeeded in wrecking power plants and damaging railways in Southern Italy. Reference to traffic dislocation in Southern Italy at the time that British parachute troops were landed was made at page 207 of our issue of February 21.

Italian-German Transit

The figures of Italian workmen now engaged in industry in Germany are given semi-officially as 300,000. In addition, there are admitted to be some 65,000 or 70,000 peasants engaged in agriculture in Germany and German-occupied territory. A recent article in the Italian Press, quoted by the Rome radio, stated that there were also about 10,000 Italians occupied as waiters or hotel-workers in Germany and Austria. Reports from Swiss sources state that the trains carrying workmen arriving from Italy for Germany are locked and under military guard. The platforms are usually cleared of spectators, both in Italy and Switzerland, when these train-loads of "voluntary" workers pass. The scheme has an important economic side to it, and this is said to provide the main reason that the Fascist Government agrees to it. The money paid to the Italian workers is used in part to set off Italy's debts to Germany for raw materials.

German Summer Air Lines

The summer timetable of the Deutsche Lufthansa, dated May 5, shows a number of extensions of services into occupied countries. In the interior (including Poland), a dozen towns have regular air services between one another, namely, Berlin, Munich, Vienna, Danzig, Königsberg, Nuremberg, Dresden, Graz, Breslau, Lodz, and Kattowitz. The international services are the following :—

Berlin-Stuttgart-Lyons-Marseilles-Barcelona-Madrid-Lisbon
Berlin-Munich-Zürich
Berlin-Munich-Vienna-Venice-Rome
Berlin-Prague-Vienna-Budapest-Bucharest
Berlin-Vienna-Budapest-Belgrade-Sofia-Salonika-Athens (resumed on May 14)
Berlin-Breslau-Vienna-Budapest
Berlin-Danzig-Konigsberg-Bialystok-Minsk-Moscow
Berlin-Stockholm
Berlin-Copenhagen-Oslo-Stavanger-Bergen
Berlin-Copenhagen-Malmö
Königsberg-Riga-Tallinn
Hamburg-Copenhagen (mail and freight only)

Some of these services must since have been withdrawn as a result of the attack on Russia. Three- and four-engined planes, of the Ju52, Ju90, and Condor 200 types, are used on all services.

The Lisbon-Madrid-Barcelona-Berlin air line has been suspended since the outbreak of war.

All air traffic between Switzerland and Germany is reported to have been stopped on June 22.

Mileage of the Hungarian State Railways

An official announcement made recently by the Hungarian State Railways gave the route length of the whole system at present as 12,646 km. (7,853 miles), made up as follows :—

State Railway system in autumn, 1938	7,856 km. (4,879 miles)
Additions taken over from the Czecho-Slovak and Slovak railway systems (Northern, North-Western, and North-Eastern Hungary) in September and November, 1938, and March, 1939	1,503 km. (933 miles)
Additions taken over from the Roumanian Railways (Eastern Hungary and Transylvania) in 1940	2,237 km. (1,389 miles)
System in Hungarian-occupied Jugoslav territory (Bacska and Baranya regions) April, 1941	1,050 km. (652 miles)
Totals	12,646 km. (7,853 miles)

The three additional portions total 4,790 km. (2,974 miles), constituting an increase of about 61 per cent. in the system as it was in the autumn of 1938.

Danube Traffic

The development of the River Danube, according to German plans, formed the subject of an article in the *Berliner Börsen-Zeitung* of June 21, by Dr. Dorpmüller, the German Minister of Transport. He said that the Danube was destined to connect the south-east of Europe and the Black Sea with the Central European countries, bringing food and raw materials to the industrial countries, and conveying fertilisers, finished goods, and coal to the Balkan States. The Danube was able to carry 1,000-ton vessels fully laden to Vienna, and 1,500-ton vessels from there to the Black Sea. The Oder-Danube and Rhine-Main-Danube Canals would connect the Danube with all the rivers of Central Europe. Other plans to connect the Oder with the Adriatic *via* Vienna were under consideration.

Roumanian Railway Reorganisation

A recent law provides for the reorganisation of the management of the Roumanian State Railways. According to this there are now 17 regional managements and three special administrative divisions. The board consists of one General Manager (*Directeur Général*) and ten members. The administration of the system is entrusted to the General Manager (appointed by the Head of the Government) and to four Assistant Managers (*Sous-Directeurs Généraux*) elected from the staff. The board alone is authorised to grant tariff reductions. The object of the reorganisation is stated to be the establishment of closer all-round collaboration.

The Roumania-Bulgaria Wagon Ferry

The long-projected wagon ferry across the Danube between Giurgiu (Giurgevo) in Roumania, and Russe (Rouschouk) in Bulgaria was inaugurated on June 16, as briefly recorded at page 68 of our July 18 issue. The capacity of the new service is stated to be 120 wagons a day. There is only one unbroken railway line between Roumania and Bulgaria, namely, that crossing the River Danube at Chernavoda, and the use of this involves a circuitous route so far as the central and western regions of the two countries are concerned.

Balkan Railway Changes

The extensive programme of the Bulgarian State Railways for the construction of new connecting links with both the Jugoslav and the Greek railway systems (details of which we published at page 68 of our July 18 issue) is stated to have been inaugurated on June 1, when work was begun. The speed with which it is intended to push forward the construction of these new lines is indicated by the fact that, despite their comparatively short mileages, no fewer than 34,000 men due to serve their compulsory labour year are being allocated to the work, and it is stated that 15,000 more men at present serving their labour year are to be added.

Rail traffic between Trieste and Laibach was resumed on June 26 (according to the Rome Radio) after three viaducts dynamited by the Jugoslav forces had been repaired.

The Railways of Turkey in Asia

According to a report from Istanbul dated July 11, a survey is proceeding for the construction of a new railway roughly parallel to the Black Sea from Adapazar in Western Anatolia to Erzerum. The railway would be of considerable importance both strategically and from the point of view of trade and industry. For some years past the Turkish State Railways administration has included among its proposed new railways a line from Adapazar eastward towards the U.S.S.R. frontier along the projected course Bolu, Cherkesh (junction with Irmak—Filyos line), Chorum, Amasia (junction with Sivas—Samsun line), Baiburt, and Kiskim, to Artvin. Presumably the present intention is to divert this proposed course from a point in the neighbourhood of Baiburt to Erzerum.

The conversion to standard of the narrow-gauge (2 ft. 5½ in.) railway between Erzerum and Sarikamish still appears to be far from complete, and the whole of this section is still operated with the narrow-gauge rolling stock. At page 29 of our July 11 issue we quoted the unconfirmed report of a correspondent that the conversion had been completed, but further information indicates that although the work has been taken in hand no appreciable amount of standard-gauge track is yet laid.

Newspaper Trains in Eire

Owing to fuel restrictions the Dublin Newspaper Managers' Committee is discontinuing early morning trains to the provinces. This will mean that local daily papers will be from three to four hours late in reaching some districts. The principal cancellation is the G.S.R. 3.30 a.m. newspaper train hitherto operated from Dublin to the Midlands and the South. The newspapers normally conveyed by this train have been carried by the 7 a.m. morning mail train from Dublin (Kingsbridge) since July 14.

RAILWAY LAW FOR THE QUARTER

Military Commandeering

Railways Transport Development Limited v. Attorney General (1941) 57 *The Times L.R.* 537.

The problem of moving army baggage and stores in time of war is always a serious one. The Army Act, 1881, Section 112, enabled a Justice of the Peace to issue a warrant on the demand of a commanding officer or under his authority, requiring vehicles and drivers to be provided when and where they are wanted. The following section (s. 113) lays down provisions for payment to the owner of the impressed vehicle. Payment is to be made upon a scale laid down in the Schedule to the Act, and in order to avoid difficulties as to ownership " the possessor of any carriage at the time of impressment is to be,deemed the owner for the purposes of the procedure of impressment, and the payment if made to him is deemed the payment to the owner." It is the duty of the man in possession to inform the owner and adjust the amount received in due proportion. In case of dispute the amount is to be fixed upon the certificate of a county court judge. All these provisions are not to be found in the Army Act itself, but are the result of amendments which seem only to be found in the *Manual of Military Law* which comes out every year. So far we have referred only to impressment for temporary user, and in these cases the vehicles are returned. But Section 115 of the Act provides for the supply of vehicles " in case of emergency." In this event an officer may be authorised to issue a " requisition of emergency," and here again the justice of the peace issues his warrant for the provision of vehicles, for which due payment is to be made. Here the property in the vehicle remains in the owner until it is handed over or " furnished " at the time and place stipulated, when the ownership passes to the army authority. The payment here is not for temporary user but for the full value of the vehicle, and greater care must be taken to see that the payment is made to the *owner* and not to the mere hirer of the vehicle. That at least is the lesson to be learnt from the above case, which recently came before the Chancery Courts.

The Rights of the Owner

In this case Railways Transport Development Limited, of Bishops Stortford, owned a Bedford motor lorry which was let under a hire purchase agreement to Turner & Riches of the same place. The instalments under the agreement fell into arrears in August, 1939, and the owners became entitled to re-take possession. On October 24, 1939, the Army requisitioned the truck under the Army Act, 1881, Section 115, and paid £380 to A. Hutchin (Haulage) Limited which was then in possession of it. The Army gave a receipt as possessor of a vehicle " impressed for purchase by his Majesty's Forces." The name of the Railways Transport Development Limited appeared on the receipt as being the real owner of the truck and this company afterwards claimed to recover the £380 from the Army Council. Mr. Justice Farwell held that the company was entitled to do so. He said that the impressment under Sections 112-113 was for the removal of baggage and stores and that payment for this under the 6th Schedule to the Act was for the hire of vehicles for a limited time. Impressment under Section 115 on the other hand was during a " state of emergency," and payment was for the capital value of the vehicle. Consequently the provisions as to the possessor being deemed to be owner for purpose of payment, which appeared in Section 112, could not be implied where the impressment was for general use by the army under Section 115. The plaintiffs, who were the owners, had not received payment, although their name appeared on the receipt as owners, and the Army Council was liable to them for the value of the truck. It will be observed that, although the sections of the Act only speak of carriages and horses, this includes motor cars, food, forage, and stores. According to the notes to Section 115 in the *Manual of Military Law*, the power to impress extends to ordinary accessories but not to spare parts, which are not ordinarily carried on the vehicle.

Valuation for Rating

The Railway & Canal Commission has been engaged for some days in the hearing of appeals under the London Passenger Transport Board (Valuation for Rating) Order, 1935, and the Valuation for Rating Scheme, 1935. There is an appeal by the board on the one hand and the London County Council on the other. The case is likely to take some weeks and we are now getting within sight of the Long Vacation which begins on August 1. The length of the vacation at the time of writing is uncertain, but there is no doubt that under present conditions some Courts will be sitting to hear cases before the commencement of the autumn term.

Railway Rating — Quinquennial Period

Strand v. Bath & Portland Stone Firms Limited.

This case decided an interesting point under the Railways (Valuation for Rating) Act, 1930. This Bath Stone company held its premises on lease from the Great Western Railway Company and its premises were treated as a railway hereditament on the railway valuation roll for 1931-1936. In 1937, on a revision, the premises were taken off the roll as not being a railway hereditament, and the list was amended under Section 12, sub. s. 5, of the Act of 1930, and the premises were inserted in the rating valuation list. By that sub-section the liability to pay rates is to have effect " as from the commencement of the quinquennial period." A summons demanding rates was issued for the first five-year period, but the company contended that it was not liable for this period, but only for that from 1936 to 1941. The magistrates at Chippenham, Wilts, agreed with this contention and refused to make an order. Upon an appeal by the rating authority the Court of King's Bench allowed the appeal. The courts held that the quinquennial period referred to in the section was that during which the roll, which was the subject of the revision, was in force, and not that during which the amendment happened to be made. In the result, therefore, the company will have to pay rates for the first period and an order to this effect was made by the court.

Contracts & Tenders

Class I railways in the United States on May 1, 1941, had more locomotives on order than at any time since 1926. The total was 438, of which 211 were steam and 227 electric and diesel. On April 1, 1941, there were 335 locomotives on order, of which 166 were steam and 169 electric and diesel, and on May 1, 1940, the total was 95, of which 54 were steam and 41 electric and diesel. The railways also put 159 new locomotives in service in the first four months of 1941, of which 37 were steam and 122 electric and diesel. In the same four-month period last year, 115 were placed in service, of which 27 were steam and 88 electric and diesel.

The South Indian Railway has placed an order, to the inspection of Messrs. Robert White & Partners, for 14 cwt. of dry electrolyte with J. Stone & Co. Ltd.

In THE RAILWAY GAZETTE of June 13 the urgent demand for large quantities of railway sleepers and crossing timbers was reported. The Ministry of Supply has been asked by the Timber Control to emphasise the importance of securing the maximum number of home-grown sleepers and timbers for the maintenance of essential transport services. Certain amendments have been made in the terms of acceptance. Whereas previously the railway companies were prepared to inspect quantities of 1,000 pieces or more, they will now inspect any number in excess of 100 pieces, and will inspect any quantity delivered to storage depots for crossing timbers. The specification of length has been altered from " up to 16 ft. in length " to " 8 ft. 6 in. and up to 20 ft. in length."

Notes and News

C.N.R. Freight Revenues Increase.—Freight revenues on the Canadian National Railways for the first four months of 1941 increased by 26 per cent. compared with the corresponding period of 1940.

The Finnish State Railways in 1940.—Receipts of the Finnish State Railways for the period January-November, 1940, amounted to 1,045,700,000 marks, and expenditures were 1,035,400,000—leaving an operating profit of 10,300,000 marks.

Grants for Irish Tourist Association.—Dublin County Council and Galway County Council have decided to revoke their orders to withhold from the Irish Tourist Association their contributions of £1,980 and £1,092, respectively.

United Railways of the Havana & Regla Warehouses Limited.—The Court has sanctioned the scheme of arrangement which was approved on June 11 at meetings of holders of debentures and debenture stocks. The moratorium is extended for two years, with a further three years at the option of the stockholders' committee.

European Goods & Traveller Luggage Insurance Co., Ltd.—Notice is given in *The London Gazette* that the creditors of this company are required to send, before the end of July, 1941, their names and addresses, with particulars of claims, to Mr. Hobart H. Moore, Chartered Accountant, of Messrs. Moore, Stephens & Co., 155, Fenchurch Street, E.C.3, the Liquidator.

Great Southern Railways (Eire).—For the 26th week of 1941 the Great Southern Railways Company reports passenger receipts of £46,007 (against £43,348), and goods receipts of £51,075 (against £48,245), making a total of £97,082 (against £91,593) for the corresponding period of the previous year. The aggregate receipts to date are passenger £966,867 (against £831,135), goods £1,294,944 (against £1,163,468), making a total of £2,261,811 (against £1,994,603).

Blackout Fall from Train to Platform.—In the Outer House of the Court of Session, on July 11, Lord Patrick gave judgment in favour of the L.N.E.R. in an action by two sisters who claimed a total sum of £1,500 in respect of injuries received in falling from a train on to the platform at Bearsden station during the blackout on December 4, 1940. His lordship, accepting the evidence of the driver, fireman, porter, and guard, considered that the two pursuers were mistaken in thinking that the train stopped twice and re-started twice with a jerk. The station lamps were darkened in accordance with the regulations, and a passenger, in the darkness that prevailed, might well think that a train had stopped, when it was in fact still moving slowly, unless he checked his impression by reference to some light or object which he could see outside the train. This was not done by either of the pursuers.

Canadian Railway Proposals.—The special committee of the Dominion House of Commons dealing with the Canadian National Railways has urged the acquisition of the balance of the outstanding 4 per cent. perpetual consolidated debenture stock of the former Grand Trunk Railway, and said that it held the same view as to the 6½ per cent. sinking fund debenture bonds of the former Canadian Northern Railway. The committee also urged the establishment of uniform accounting regulations applicable to the Canadian Pacific Railway as well as the Canadian National Railways.

Slough Railway Accident: Inquiry Opened.—Major G. R. S. Wilson, of the Ministry of War Transport, opened, on July 9, the official inquiry into the accident on the G.W.R. near Slough on July 2 (reported in our issue of July 11, page 46). Tributes were paid to the excellent work done by Civil Defence services and members of the Forces travelling in the train. After Mr. Gilbert Matthews, Superintendent of the Line, and Mr. C. T. Cox, Divisional Superintendent, had made statements explaining the general circumstances of the accident, Major Wilson decided to continue his investigation in private.

Labour and the War.—A tribute to the work of Mr. Ernest Bevin, Minister of Labour, the former General Secretary of the Transport & General Workers Union, is contained in the annual report of the union. It states that the emergency powers conferred on the Minister amount almost to a dictatorship, and adds, "In the exercise of these powers, Mr. Bevin, we suggest, has acted with a knowledge and experience based on a clear understanding of the trade union position, and the background of our movement. As a result of the influx of women into industry, it is considered that standards have been created which will form a solid basis for the future regulation of women's wages." The membership of the union at the end of last year was 743,349.

C.N.R. Loan Bill.—Mr. J. L. Ilsley, Canadian Minister of Finance, introduced in the Dominion House of Commons on June 2, a resolution preliminary to a Bill to authorise the Canadian National Railways to issue securities not exceeding $29,414,206, in principal to meet capital expenditures made or capital indebtedness incurred during the calendar year 1941. The preamble of the resolution states it is expedient to make provision for the purchase or refunding of capital obligations of the company or of any company comprised in the C.N.R. systems and for the issue of substituted securities for such purposes; to authorise the Governor-in-Council to guarantee the principal, interest, and sinking funds of securities issued by the company for these purposes; to authorise temporary loans to the company secured by such securities to enable it to meet expenditure and indebtedness; to authorise the company to pay supplementary contributions to certain railway employees' benevolent funds; and to authorise the making of further temporary loans to the company for interim deficits, these loans to be reimbursed from the annual revenues.

British and Irish Railway Stocks and Shares

Stocks	Highest 1940	Lowest 1940	Prices July 18, 1941	Prices Rise/Fall
G.W.R.				
Cons. Ord.	52	22½	36	– ½
5% Con. Pref.	103½	58	100½	—
5% Red. Pref. (1950)	105½	88	104	—
4% Deb.	107½	90½	107½	– 1
4½% Deb.	108½	96½	111	—
4½% Deb.	114½	96	115½	—
5% Deb.	124	106	129	—
2½% Deb.	66½	57	66	—
5% Rt. Charge	117½	97	125½	—
5% Co. Guar.	117	90½	123½	– 1
M.S.R.				
Ord	24⅞	9	13¾	– ½
4% Pref. (1923)	60½	21⅛	42½	—
4% Pref.	70½	35	59	—
5% Red. Pref. (1955)	94½	60	84½	—
4% Deb.	101½	81	101½	—
5% Red. Deb. (1952)	109½	102	108	—
4% Guar.	93½	65	94½	+ ½
L.N.E.R.				
5% Pref. Ord.	8⅜	1½	2¾	—
Def. Ord.	4⅜	1½	1⅜	—
4% First Pref.	60	20	42½	—
4% Second Pref.	22⅞	6½	16	—
5% Red. Pref. (1955)	80	34½	66½	—
4% First Guar.	86½	56	85½	—
4% Second Guar.	77½	37	74½	—
3% Deb.	73½	54½	75½	—
4% Deb.	97⅜	74	100½	—
5% Red. Deb. (1947)	107	96½	104	—
4½% Sinking Fund Red. Deb.	104	98	101½	—
SOUTHERN				
Pref. Ord.	79	34	53½	– 1
Def. Ord.	22½	7	11½	– ½
5% Pref.	104½	58¾	98½	—
5% Red. Pref. (1964)	105	85	104½	—
5% Guar. Pref.	116½	90	123½	– 1
5% Red. Guar. Pref. (1957)	114 7/16	94	113½	—
4% Deb.	106½	84½	105½	—
5% Deb.	122½	100	126½	—
4% Red. Deb. (1962–67)	106	96½	105	—
4% Red. Deb. (1970–80)	106⅝	93	105	—
FORTH BRIDGE				
4% Deb.	95½	87	92½	—
4% Guar.	93½	81½	92½	—
L.P.T.B.				
4½% "A"	116	103	114½	—
5% "A"	121½	107	123½	—
4½% "T.F.A."	105½	101	101½	—
5% "B"	116	102	109½	—
"C"	65½	24	37	—
MERSEY				
Ord.	26	18½	20½	—
4% Perp. Deb.	92½	86½	91½*	– 1
3% Perp. Deb.	68	63	66½*	– 1
3% Perp. Pref.	57	50½	53½	—
IRELAND				
BELFAST & C.D.				
Ord.	4	3	4	—
G. NORTHERN				
Ord.	4½	1½	6½	—
G. SOUTHERN				
Ord.	12½	4	8⅜	—
Pref.	15½	6	9	—
Guar.	36	15	21	– 3
Deb.	55½	40	49	– 1

* Ex-dividend.

RAILWAY AND OTHER MEETINGS

The Antofagasta (Chili) & Bolivia Railway Co. Ltd.

The annual general meeting of the Antofagasta (Chili) & Bolivia Railway Co. Ltd., was held at Winchester House, Old Broad Street, E.C.2, on July 22. Mr. A. G. Hunt, Chairman of the company presided.

The Secretary, Mr. Charles Cowley, having read the notice convening the meeting,

The Chairman referred to the statement which had been circulated with the report and accounts, in the course of which he mentioned the loss sustained in the sudden death of the late Chairman, Mr. A. W. Bolden.

The combined results of the operation of the railway and water works for the past year had resulted in a profit of £120,683, a decrease of £11,133 compared with the previous year. The total number of passengers carried had increased by about 10 per cent.; public goods traffic handled totalled 1,023,060 tons, a decrease of 1,208 tons; there had been an increase in receipts of £121,079, mainly through an improvement in long haul traffic.

Nitrate had been a disappointing traffic; the quantity carried had been 150,389 tons, a decrease of 84,136 tons. Copper bar traffic from the Chile Exploration Company had shown an increase of some 8,000 tons; sulphur traffic had continued to improve and showed an increase of 26 per cent.; tin barrilla from Bolivia yielded an increase of 14,057 tons. Traffic generally in Bolivia had been very well maintained and imports from the Argentine, principally cattle, flour, and wheat had increased greatly during 1940.

Despite economy, working expenses had shown the considerable increase of £155,137 or 26·03 per cent. Nearly £50,000 arose from appreciation in the sterling value of the Chilian peso.

The total of £120,683 profit on operation had been added to by the dividend of £100,000 from the Andes Trust, the net income from Bolivia Railway Company bonds had given £30,941, the income from investments, less interest charges, £12,616, registration fees, £187, or a total of £264,427. Adding the balance forward from 1939 of £176,498 gave a gross figure of £440,925. From this had to be deducted the interest on debenture stocks, £128,299, loss on working the Bolivia Railway Company's lines, £37,216, the amount provided in connection with the lease of the Aguas Blancas Railway, £17,761, exchange reserve account allocation £20,000, provision for income tax, £5,000, contribution to staff benevolent fund, £20,000, or a total of £228,277, which left a balance of £212,648 which was to be carried forward to 1941.

The report and accounts were adopted and a resolution permitting a director to hold any office of profit under the company was carried. The Chairman explained that it was intended to elect Mr. Charles Cowley, the Secretary, to the board of directors.

Staff and Labour Matters

L.P.T.B. Lighting and Lift Staff

The National Arbitration Tribunal, on July 1, 1941, heard claims by the Electrical Trades Union and the National Union of Railwaymen for an advance in wages to the lighting staff and the lift and escalator staff employed by the London Passenger Transport Board and the findings of the tribunal are as follow: "The tribunal have given careful consideration to the statements and submissions of the parties. They award that the special bonus payments at present made to the lighting staff and the lift and escalator staff be increased to the following amounts:—

Lighting staff:—

Skilled	11s. 0d. a week of 47 hours
Semi-skilled	9s. 0d. a week of 47 hours
Unskilled	7s. 6d. a week of 47 hours

Lift and escalator staff:—

Skilled	14s. 6d. a week of 47 hours
Semi-skilled	11s. 0d. a week of 47 hours
Unskilled	9s. 3d. a week of 47 hours

This award is without prejudice to the increase of 4s. a week in the war advance which, it was reported to the tribunal, has been offered by the board as from February 24, 1941, but is in abeyance pending agreement as to the date of operation." The increase in the war advance, and for the board's workshop staff generally is to be applied as from January 6.

N.U.R. Annual Conference

The annual conference of the National Union of Railwaymen which was held at Swansea this year, began on July 7 and continued for a fortnight. On July 6, the Sunday preceding the conference, Mr. Marchbank, the General Secretary of the union, addressed a mass meeting at Swansea, during the course of which he said the complete re-organisation of the means of transport, by rail, road, sea, and air, was never more necessary.

He challenged the view that the upward movement of wages since the war began was responsible for the rise in the cost of living, and quoted the Minister of Labour, Mr. Ernest Bevin, as showing that between September, 1939, and June, 1941, wage rates had risen by no more than 20 per cent. compared with 29 per cent. increase in the cost of living in the same period. The N.U.R., he said, would not be a consenting partner in any kind of agreement or understanding to stabilise wages until decisive and effective measures were taken to stop the plundering of the public by illicit trading, speculation, profiteering, hoarding, and evasion of the food control system.

The conference was opened on July 7 by Mr. J. H. Potts, who, in his presidential address reviewed the activities of the union during the past 12 months and said it had been constantly engaged in protecting the interests of members, and had not neglected those now in the Forces. The settlement of application for war advance could not be considered wholly satisfactory, but the best has been done in all the circumstances and the back-dating of the advance granted was a distinct achievement.

One of the matters which had caused the Executive Committee most concern was fire-watching. He thought it was reasonable to suggest that railway companies should bear the responsibility for protecting their own property against fire, and that they should employ, and pay at proper rates, workers to do it.

A proposal that the union should co-operate with the companies in an approach to have the railway industry scheduled under the Essential Work Order had caused the union some concern and he said the companies had been asked to put an adequate minimum wage into operation but they refused to do this.

Railway and Other Reports

Union Pacific Railroad Company.—Operating revenues for the year 1940 were $168,164,258, an increase of $3,910,886, and operating expenses $117,858,588, an increase of $3,090,523. Net income from transportation operations amounted to $23,358,960, an increase of $3,125,772, and total income advanced from $33,769,145 to $35,255,790. Total net income after payment of fixed and other charges reached $19,445,880, an increase of $479,249, and the dividends of 4 per cent. on the preferred stock and of 6 per cent. on the common stock again absorbed $17,319,184, leaving a surplus of $2,126,696 ($1,647,447) transferred to profit and loss. Route-miles operated at the close of 1940 were 9,892, a decrease of 6 miles.

Glyn, Mills & Co.—A sound position is indicated in the 114th statement of assets and liabilities as at June 30, 1941, of this old-established banking firm which incorporates Child & Co. and Holt & Co. Total assets are shown at £52,730,474, as against £44,870,209 at June 30, 1940. In the present assets are included: £5,316,004 in coin, bank notes, and balance at Bank of England; £2,455,212 balances with and cheques in course of collection on, other banks in the United Kingdom; £4,168,700 money at call and short notice; bills discounted £836,426; Treasury deposit receipts £5,500,000; and investments £18,926,977, including £17,810,380 in British Government securities. These items together represent 78·98 per cent. of the deposits of £47,104,900. The issued capital of £1,060,000 and the reserve fund of £850,000 are unchanged.

Railway Stock Market

Quieter conditions have ruled in Stock Exchange markets, although the general undertone was firm, and the majority of movements in security values were moderate in character. Owing to the very small amount of selling, many stocks have remained in restricted supply, but on the other hand, demand has been on a reduced scale at the time of writing. There was, in fact, little disposition to enter into fresh commitments, pending further indications as to trends in the war and international situation. Nevertheless, bearing in mind the weight of money available for investment, and the underlying strength of gilt-edged stocks, the prevailing view is that over a period, security values are likely to record a further rise. Despite the attractive yields obtainable, an attitude of caution has ruled in home railway stocks, in advance of the impending dividend statements, market views in connection with which have been mentioned in these notes. Hopeful expectations have continued in regard to the revised wartime agreement between the railways and the Government. When the terms are announced, there will probably be a sound basis on which the position of the junior stocks can be assessed—and possibly scope for improvement in market values, if the companies are given a reasonable chance of paying dividends in excess of those provided by the existing minimum guaranteed revenue. The latter, of course, allows of only 3·3 per cent. on Great Western ordinary; 1 per cent. on L.M.S.R. ordinary; 1·2 per cent. on L.N.E.R. second preference; and 0·8 per cent. on Southern deferred. Last year's dividends were slightly above these rates, and it is being pointed out that the yield of over 11 per cent. on Great Western ordinary, which for 1940 received a total dividend of 4 per cent., appears to be excessive, even when compared with the generous yields also shown by other junior stocks of the main-line railways. Various of the prior charges have made slightly lower prices this week in accordance with the surrounding Stock Exchange tendency at the time of writing, and judged by their first-class investment merits, yields are attractive. L.M.S.R. 4 per cent. debentures, for example, yield over 3⅞ per cent., and the return on the guaranteed stock is nearly 4¼ per cent.

As compared with a week ago, Great Western ordinary has moved back from 36¾ to 35¾. On the other hand, this company's 4 per cent. debentures remained at 108, and the preference stock held the recent improvement to 101½, whereas L.M.S.R. ordinary eased from 14⅜ to 13⅞, the senior and 1923 preference were unchanged on balance, at 59½ and 42½ respectively. L.M.S.R. 4 per cent. debentures were 102½, and the guaranteed stock 95. Among L.N.E.R. securities, the second preference reacted from 16¼ to 15⅝; but the first preference was fractionally higher at 43, compared with 42½ a week ago, and for the first time over a lengthy period had a better quotation than L.M.S.R. 1923 preference. L.N.E.R. first guaranteed was 86½, and the second guaranteed at 75 was also unchanged on balance, while the 4 per cent. debentures remained at 101; the 3 per cent. debentures at 76 were also virtually the same as a week ago. Whereas Southern deferred went back from 12⅜ to 11⅝, and the preferred from 54½ to 53½, the preference stock held its recent improvement to 98. London Transport "C" was maintained at 37.

Some junior stocks of Argentine companies reacted but recent buying of the debentures was mainly by those willing to take the long view. B.A. Great Southern 4 per cent. debentures at 45 were two points up. Canadian Pacifics were inclined to improve; the market hopes they will re-enter the dividend list for the current year.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

	Railways	Miles open 1940-41	Week Ending	Traffic for Week: Total this year	Traffic for Week: Inc. or Dec. compared with 1940	No. of Weeks	Aggregate Traffics to Date: Totals: This Year	Aggregate Traffics to Date: Totals: Last Year	Aggregate Traffics to Date: Increase or Decrease	Shares or Stock	Prices: Highest 1940	Prices: Lowest 1940	Prices: July 18, 1941	Prices: Yield % (See Note)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	13.7.41	16,760	+ 1,600	28	499,280	515,900	— 16,620	Ord. Stk.	11¼	3½	5½	Nil
	Argentine North Eastern ...	753	12.7.41	ps. 187,900	+ ps.23,000	2	ps. 323,100	ps. 323,000	+ ps.100	,,	3¾	1	2	Nil
	Bolivar	174	June, 1941	3,940	+ 10	26	23,072	24,580	— 1,508	6 p.c. Deb	6½	5	6¼	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	8	5	4½	Nil
	Buenos Ayres & Pacific ...	2,801	5.7.41	ps 1,547,000	+ ps.392,000	1	ps.1,242,000	ps. 1,023,000	+ ps. 219,000	Ord. Stk.	4½	1	2½	Nil
	Buenos Aires Central ...	190	18.1.41	$70,400	— $20,200	29	$2,477,400	$2,994,900	— $517,500	—	—	—	—	—
	Buenos Ayres Great Southern	5,082	5.7.41	ps.2,282,000	+ ps.23,000	1	ps.1,606,000	ps.1,980,000	— ps.374,000	Ord. Stk.	10⅛	3	5¼	Nil
	Buenos Ayres Western ...	1,930	5.7.41	ps 892,000	+ ps.263,000	1	ps. 655,000	ps. 561,000	+ ps. 94,000	,,	8⅜	2	3¾	Nil
	Central Argentine	3,700	12.7.41	ps. 1,717,500	+ ps.286,250	2	ps. 3,011,350	ps. 2,679,300	+ ps.332,050	,,	8½	2	4	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	4	¼	1½	Nil
	Cent. Uruguay of M. Video	972	5.7.41	27,067	+ 8,798	1	17,578	15,248	+ 2,330	Ord. Stk.	3¾	¼	2	Nil
	Costa Rica	188	April 1941	15,450	— 2,390	43	152,170	176,057	— 23,887	Stk.	23½	14	15½	12⅞
	Dorada	70	June, 1941	13,200	+ 300	26	75,300	72,000	+ 3,300	1 Mt. Db	99	97½	97	6⅜
	Entre Rios	808	12.7.41	ps. 295,500	+ ps.53,800	2	ps. 496,000	ps. 466,200	+ ps. 29,800	Ord. Stk.	4	¼	1½	Nil
	Great Western of Brazil ...	1,016	12.7.41	7,000	— 400	28	257,900	296,100	— 38,200	Ord. Sh.	4/-	1/-	3/16	Nil
	International of Cl. Amer. ...	794	May 1941	$553,852	+ $56,333	22	$2,521,794	$2,840,950	— $319,156	—	—	—	—	—
	Interoceanic of Mexico ...	—	—	—	—	—	—	—	—	1st Pref.	9d.	9d.	½	Nil
	La Guaira & Caracas... ...	22¾	June, 1941	5,075	+ 315	26	35,220	39,435	— 4,215	—	6	4	—	—
	Leopoldina	1,918	5.7.41	26,475	+ 2,987	27	642,795	581,577	+ 61,218	Ord. Stk.	2 3/16	¼	1	Nil
	Mexican	483	7.7.41	ps. 307,900	+ ps. 52,300	1	ps. 307,900	ps. 255,600	+ ps 52,300	,,	2/11 11/16	1/8	3/8	Nil
	Midland of Uruguay ...	319	May, 1941	15,465	+ 1,693	48	135,666	121,022	+ 14,644	—	—	—	—	—
	Nitrate	386	30.6.41	6,702	— 845	26	53,710	88,362	— 34,652	Ord. Sh.	2¾	1½	2⅛	5⅞
	Paraguay Central	274	12.7.41	$3,506,000	+ $2,562,000	2	$6,531,000	$9,035,000	— $2,504,000	Pr. Li. Stk	41	36	28½	15¾
	Peruvian Corporation ...	1,059	June, 1941	63,288	— 7,119	52	772,792	820,597	— 47,805	Pref.	4	1	2	Nil
	Salvador	100	10.5.41	£19,031	+ £6,108	45	£713,286	£906,801	— £193,515	—	—	—	—	—
	San Paulo	153½	29.6.41	38,750	— 997	26	962,551	946,658	+ 15,893	Ord. Stk.	50	23	30½	6 9/16
	Taltal	160	June, 1941	2,050	+ 1,220	52	32,595	29,590	+ 3,005	Ord. Sh.	15/1½	3/8	6/8	Nil
	United of Havana	1,346	12.7.41	18,810	+ 3,693	2	33,472	30,830	+ 2,642	Ord. Stk.	⅜	¼	¼	Nil
	Uruguay Northern	73	May, 1941	1,442	+ 329	48	12,771	12,356	+ 415	—	—	—	—	—
Canada	Canadian National	23,579	7.7.41	1,083,411	+ 138,211	27	29,426,508	23,681,509	+ 5,744,999	—	—	—	—	—
	Canadian Northern ...	—	—	—	—	—	—	—	— 4 p.c.	Perp. Dbs.	86	68	91½	4⅜
	Grand Trunk	—	—	—	—	—	—	—	— 4 p.c. Gr.	105¾	95 13/16	101¼	3 14/16
	Canadian Pacific	17,153	7.7.41	807,000	+ 160,600	27	20,775,400	15,723,400	+ 5,052,000	Ord. Stk.	9 3/16	4⅛	9	Nil
India†	Assam Bengal...	1,329	—	—	+ —		—	—	—	Ord. Stk.	99¾	71	100	3
	Barsi Light	202	30.4.41	5,557	+ 2,107	4	19,687	13,920	+ 5,767	—	—	—	—	—
	Bengal & North Western ...	2,036	31.5.41	270,525	— 37,232	9	544,425	595,649	— 51,224	Ord. Stk.	283	234	300	5 5/16
	Bengal-Nagpur	3,269	31.3.41	266,175	+ 11,055	52	9,989,306	8,266,447	+ 722,859	,,	96	83⅞	100½	4
	Bombay, Baroda & Cl. India	2,986	10.7.41	187,425	— 47,850	14	3,020,175	2,921,625	+ 98,550	,,	108	99	108½	5¼
	Madras & Southern Mahratta	2,939	30.4.41	196,125	— 4,637	4	586,500	575,869	+ 10,631	,,	104	97⅛	102¼	7 5/16
	Rohilkund & Kumaon ...	571	31.5.41	66,150	— 3,960	9	128,925	139,568	— 10,643	,,	284	238	295	5 7/16
	South Indian	2,500	20.4.41	127,626	+ 2,675	3	269,156	242,933	+ 26,223	,,	93¾	83	97½	4⅛
Various	Beira	204	May 1941	79,211	—	35	574,352	—	—	—	—	—	—	—
	Egyptian Delta	610	20.5.41	6,428	+ 1,837	6	25,728	19,436	+ 6,292	Prf. Sh.	7/10½	⅜	¾	Nil
	Kenya & Uganda	1,625	—	—	—	—	—	—	—	—	—	—	—	—
	Manila	—	—	—	—	—	—	—	—	B. Deb.	53	44½	49	6⅛
	Midland of W. Australia ...	277	Mar. 1941	14,597	+ 2,092	39	134,201	115,376	+ 18,825	Inc. Deb.	88	80	87½	6⅛
	Nigerian	1,900	31.3.41	100,291	+ 53,330	52	2,494,207	2,108,686	+ 385,521	—	—	—	—	—
	Rhodesia	2,442	May 1941	479,908	—	35	3,763,016	—	—	—	—	—	—	—
	South Africa	13,287	31.5.41	722,583	+ 69,065	9	6,339,453	5,661,568	+ 677,885	—	—	—	—	—
	Victoria	4,774	Mar. 1941	973,121	+ 89,092	39	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current prices and are within a fraction of ⅛ Argentine traffics are given in pesos
† Receipts are calculated @ 1s. 6d. to the rupee